

DPW ENGINEERING DIVISION

TOWN OF LEXINGTON, MASSACHUSETTS

TOWN OF LEXINGTON, MASSACHUSETTS

**CEDAR STREET SIDEWALK
CONTRACT #25-84**

March 6, 2025

TOWN OF LEXINGTON, MASSACHUSETTS

INDEX SHEET

CONTRACT #25-84

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APPENDIX A: PREVAILING WAGE RATES

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THE TOWN OF LEXINGTON, MASSACHUSETTS
INVITES PROPOSALS
CEDAR STREET SIDEWALK
CONTRACT # 25-84

The Town of Lexington, Massachusetts, through its Town Manager, will receive bids for the construction of Cedar Street Sidewalk, Contract # 25-84, until **12:00 P.M., Local Time, Thursday, March 20, 2025** at the Town Office Building, 1625 Massachusetts Avenue, Procurement Office, Third Floor, Lexington, Massachusetts. A payment bond and performance bond of not less than the amount of the contract, with satisfactory surety, for faithfully doing the work will be required.

Plans and specifications that include the required bid forms will be available on **March 6, 2025** as PDFs and ordered for printing at www.accentblueprints.com. A copy fee is charged for printed copies. They can be picked up at Accent Printing, 99 Chelmsford Rd, N. Billerica, MA 01862 (978-362-8038). Copies can be shipped on order upon payment of handling and mailing fee.

The proposal must be filled out and signed as directed therein, sealed in an envelope addressed to the Town Manager, Lexington, Massachusetts, endorsed with the name and address of the bidder, and marked "Cedar Street Sidewalk", and left with either a bid bond in accordance with Chapter 30, Section 39M or a certified treasurer's or cashier's check issued by a responsible bank, for 5 percent of the bid for the proposed work payable to the Town of Lexington, Massachusetts, before **12:00 P.M., Local Time, Thursday, March 20, 2025**. This check to be the property of said Town if the Bidder fails to execute the contract and satisfactory bond within ten (10) days after the contract may have been awarded to him.

Attention is called to the fact that State Prevailing Wage Rates are established for the project as set forth in the contract documents.

Proposals filled out and left, with check, as above directed and no others, will, at the above named hour, be publicly opened and read at Town of Lexington Town Offices, 1625 Massachusetts Avenue, 3rd floor, Selectman's Meeting Room, Lexington, Massachusetts. The undersigned reserves the right to reject any or all proposals, or to accept the proposal they deem best for the Town.

The bidder shall start the work under the contract within thirty (30) calendar days excluding Saturdays, Sundays, and Holidays, after the date of the contract.

No proposal may be withdrawn within thirty (30) days after the opening of bids.

All pre-bid questions concerning the contract documents and the work contained therein must be submitted in writing to, and received by, Ross Morrow P.E., Town Engineer, 201 Bedford Street, Lexington, MA 02420, before **Friday, March 14, 2025**.

Project value is estimated to be \$1,400,000.00.

The Town of Lexington reserves the right to reject any and all bids if it be in the public interest to do so.

TOWN OF LEXINGTON, MASSACHUSETTS

Elizabeth Mancini
Chief Procurement Officer
781-698-4628

TOWN OF LEXINGTON, MASSACHUSETTS

INSTRUCTIONS TO BIDDERS

1. Receipt of Bids

The Town may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities in or reject any and all bids. Any bid may be withdrawn prior to the above-mentioned time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw his/her bid for a period of 30 days, excluding Saturdays, Sundays, and legal holidays after actual date of the opening thereof.

2. Preparation of Bid

Each bid shall be submitted on the forms attached to these documents. The bid forms shall not be removed and submitted separately from the other documents. All blank spaces for bid prices must be filled in with the unit price for the item or the lump sum for which the proposal is made. Bidders must bid on each item including the supplemental section. All entries in the entire proposal must be made clearly, and prices must be written in both words and figures in the spaces provided. The Town reserves the right to remove the supplemental bid from this contract.

3. Bid Submission

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his/her address, and the name of the project for which the bid is submitted, and the name and number of the Contract for which the bid is submitted. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as follows:

Bid Documents
Town of Lexington-Procurement Office
CEDAR STREET SIDEWALK CONTRACT #25-84
1625 Massachusetts Ave.
Lexington, MA 02420

The Owner will receive sealed bids until the time, and at the location designated in the Notice to Contractors. Bids received after this time will not be accepted. All interested parties are invited to attend; bids will be opened publicly and read aloud.

4. Bid Security

Every bid submitted by contractors shall be accompanied by a bid deposit in the form of cash, certified check, treasurer's or cashier's check, or a bid bond issued by a responsible bank or trust company and made payable to the Town of Lexington. The amount of the bid deposit shall be 5% of the amount of the base bid plus add-alternate(s). All security except those of the three lowest responsible and eligible bidders will be returned within five days, Saturdays, Sundays, and legal holidays excluded, after opening of the proposal. All bid securities will be returned on the execution of the contract or if no award is made within 30 days, excluding Saturdays, Sundays, and legal holidays, after the actual date of the opening thereof, unless forfeited under the conditions herein stipulated.

In case a party to whom a contract is awarded shall fail or neglect to execute the contract and furnish the satisfactory bond in the time specified, the Town may determine the bidder has abandoned the contract and thereupon the proposal and acceptance shall be null and void, and the bid security accompanying the proposal shall be forfeited to the Town as liquidation damages for such failure or neglect and indemnify the Town for any loss which may be sustained by failure of the bidder to execute the contract and furnish the bonds as aforesaid, provided that, in case of

death, disability, or other unforeseen circumstances affecting the bidder, such bid security may be returned to him/her. After execution of the contract and acceptance of the bonds by the Town, the bid security accompanying the proposal of the successful bidder will be returned.

5. Time of Completion

The bidder must agree to commence work within the time specified in the contract documents, and to fully complete the project no later than November 21, 2025. See subsection 8.03, "Prosecution of Work" for sequence of completion.

6. Performance and Payment Bonds

A bond (performance bond) in the sum of the total amount (100%) of the Contract by the successful bidder and an additional bond in equal amount covering the payment for all labor and materials (payment bond) used in the work will be required. These bonds must be provided by a surety company that is listed with the Commonwealth of Massachusetts Approved Surety List. These bonds will be required at the execution of the contract. Attorneys-in-fact who sign contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

7. OSHA ten certification

All persons employed at the worksite must have successfully completed at least ten hours of an OSHA certified construction safety and health training. The 'Certificate of OSHA training of personnel' form attached in the contract must be signed and proof of training provided along with the first certified payroll.

8. Laws and Regulations

The bidder's attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the project shall apply to the contract throughout, and they will be deemed to be included in the contract the same as though herein written out in full.

9. Withdrawal of Bids

Except as hereinafter expressly provided, a bidder may not withdraw his bid until after thirty, (30) consecutive calendar days after the actual date of opening of Bids.

Upon proper written request and identification, Bids may be withdrawn only as follows:

1. At any time prior to the designated time for the opening of Bids.
2. Death or serious injury of a principal.
3. With the approval of the Town.
4. At any time after the expiration of the period during which withdrawal is prohibited provided the bid has not been accepted by the Town.

10. Execution of Contract

The party to whom the contract is awarded will be required to execute the contract and furnish the bonds duly executed with a satisfactory surety company within five days, excluding Saturdays, Sundays, and legal holidays, of the date of the mailing of the notice to the bidder according to the address given by him, that the contract is ready for execution.

11. Obligation of Bidder

At the time of the opening of bids, each bidder will be presumed to have inspected the site and to have read and to be thoroughly familiar with the drawings and contract documents, including all referenced documents. The failure or omission of any bidder to receive or examine any form, instrument, or document shall in no way relieve any bidder from the obligation in respect to his bid.

11. Omissions, Discrepancies, Interpretations and Addenda

Should a bidder find discrepancies in, or omissions from, the drawings or contract documents, or should he/she have questions as to the interpretation of the plans or contract documents he/she shall submit such in writing to the Director of Public Works at least five days before the date herein set for the opening of bids. An interpretation will be mailed by certified mail to prospective bidders at the addresses given by them on or about two days before the opening of bids. Signed copies of all addenda shall be included with the bid. Omission of the signed addendum shall be cause for rejections of the bid.

12. Record of Address

Prospective bidders shall at the time the deposit is made and plans and specifications are secured, place on file with the Director of Public Works their address, and are required to make any changes necessary to insure that the record is accurate, complete, and up to date.

13. Massachusetts Sales and Use Tax

Materials purchased for permanent installation in the work will be exempt from the Massachusetts Sales and Use tax. Each bidder shall take this exemption into account in calculating his/her bid for the work.

14. State Tax Affidavit

Prospective bidders are required to certify that all state tax returns have been filed and all state taxes have been paid in order to be eligible to enter into a contract with the Town on this project. The form in section 0500 is to be used for this purpose and is to be completed and returned as part of the bid and proposal.

15. Prevailing Wage Rates

Prevailing rates for wages for work performed under this Contract will be as predetermined by the Commissioner of Labor and Industries of the Commonwealth of Massachusetts in accordance with the provisions of Sections 26 to 27D, inclusive, of c.149 of M.G.L. A schedule of the prevailing wages is included in Prevailing Wage Rates Section 0300.

16. Sub-bids

No sub bids will be sought in connection with this Contract.

17. Bid Deposit

A bid deposit is not required to receive bids as they are distributed electronically. This DOES NOT exempt bidders from providing 5% bid security described in item 4 above.

18. Extension of Contract

The Town reserves the right extend this contract in one year increments for a period of up to three years for the purpose of performing additional work of a similar nature to the work as originally bid at the contract unit prices. Any extension of this contract must be made by mutual agreement between the Town and the Contractor.

TOWN OF LEXINGTON PREVAILING WAGE RATES

A schedule of Prevailing wage rates excerpted from that for "Mechanics, Apprentices, Teamsters, Chauffeurs, and Laborers" issued for this work by the Commissioner of Labor and Industries of Massachusetts, in accordance with Chapter 461, Acts of 1935, is included in Appendix A.

LOCATION AND SCOPE OF WORK

CEDAR STREET SIDEWALK CONTRACT #25-84

1. DESCRIPTION OF THE PROJECT

The work under this contract consists of the construction of a new sidewalk on Cedar Street between Winding Road and Massachusetts Avenue, as well as a new crosswalk at the intersection of School Street and Rolling Lane.

2. LOCATION OF PROJECT

The work is to be performed along Cedar Street, between the intersections of Freemont Street and Massachusetts Avenue, as well as at the intersection of School Street and Rolling Lane, in the Town of Lexington.

3. SCOPE OF WORK

The work under this contract consists of furnishing all necessary labor, materials, equipment and services to complete roadway improvements as described herein under the CEDAR STREET SIDEWALK CONTRACT #25-84. The work under this contract consists of the construction of a new sidewalk on Cedar Street between Winding Road and Massachusetts Avenue, as well as a new crosswalk at the intersection of School Street and Rolling Lane. The work includes hot mix asphalt curb and berm installation, granite curb installation, hot mix asphalt sidewalk and driveway installation, minor roadway box widening, catch basin, gutter inlet and drain pipe installation, cement concrete pedestrian ramp construction, pavement marking installation and removal, tree clearing and tree protection, stone masonry wall construction, loose stone wall removed and reset, grading, loam and seed and mulch installation, temporary traffic control management, and various other appurtenant work. The installation of sloped face granite curb, granite splayed ends, and granite transition curb as an alternative to the hot mix asphalt curb is included in the contract under Add-Alternate 1.

All work under this contract shall be done in conformance with the Commonwealth of Massachusetts Department of Transportation *Standard Specifications for Highways and Bridges* dated 2024, and the *Supplemental Specifications* contained in this contract; the *2017 Construction Standard Details*, the *1990 Standard Drawings for Signs and Supports*; *The 2015 Overhead Signal Structure and Foundation Standard Drawings*, the *2009 Manual on Uniform Traffic Control Devices (MUTCD)* with *Massachusetts Amendments* and the *Standard Municipal Traffic Code*; the *1968 Standard Drawings for Traffic Signals and Highway Lighting*; the latest edition of *American Standard for Nursery Stock*; the Plans and these Special Provisions.

The following is the anticipated scope of work based on the construction shown on the plans. The engineer has the authority to adjust these as they see fit;

- Construct an asphalt sidewalk along Cedar Street.
- Install hot mix asphalt and granite curb as shown on the plans.
- Construct accessible pedestrian curb ramps, and crosswalks as shown on the plans.
- Install pavement markings as shown on the plans.
- Install gutter inlets, catch basins, and drain pipe as shown on the plans.
- Minor roadway box widening on Cedar Street.
- Tree clearing, tree protections, and proposed plantings as shown on the plans.
- The hours of operation will be Monday through Friday 7:00am to 4:00pm. Modifications to this schedule will be discussed on a case by case basis.
- Additional work outside of that shown on the plans may be added (or work deleted) in other areas of town which may include work similar to the scope of this project.
- **The contractor will provide all required work zone and detour signs and barricades.**

**PROPOSAL TO
TOWN OF LEXINGTON, MASSACHUSETTS**

CEDAR STREET SIDEWALK CONTRACT #25-84

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals. The undersigned further certifies that the only persons or parties interested in this proposal as principals are as stated, that he/she has carefully examined the Information for Bidders, Contract, Specifications, Contract Drawings, all as prepared by the office of the Town Engineer; that he/she has informed himself/herself fully in regard to all conditions pertaining to the work and the place where it is to be done, and from them the undersigned makes this Proposal. These prices shall cover all expenses incurred in performing the work required under the Contract Documents, of which this proposal is a part.

If written notice of the acceptance of this bid is mailed, or otherwise delivered to the undersigned within 30 days, excluding Saturdays, Sundays, and legal holidays, after the date of opening the bid, the undersigned will within five days, excluding Saturdays, Sundays, and legal holidays, after the date of such notification, execute and deliver a Contract in the form attached thereto, together with a performance bond, and payment bond, each of a surety company qualified to do business under the laws of the State and furnished by a company satisfactory to the Town. The premiums for these bonds shall be paid by the General Contractor and shall be included in the Contract price. The Undersigned further agrees that the bid security accompanying this Proposal shall become the property of the Town, if the bidder fails to execute the Contract as stated above.

The undersigned hereby agrees to commence work under this Contract within 10 working days of the execution of the Contract. The bidder acknowledges receipt of the following addenda numbered:

In accordance with the above understanding, the undersigned proposes to do all of the work, furnish all of the materials, and complete the work in its entirety in the manner and under the conditions required at the prices listed as follows:

I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under law.

Signature of Individual* By: Corporate Office or
Corporate Name (Mandatory, if Applicable)
(Mandatory)

Social Security # ** (Voluntary) or Federal
Identification Number

* Approval of a contract or other agreement will not be granted unless this certification clause is signed by the applicant.

** Your social security number will be furnished to the Massachusetts Department of Revenue to determine whether you have met tax filing or tax payment obligations. Bidders who fail to correct their non-filing or delinquency will not have a contract or other agreement issued, renewed, or extended. This request is made under the authority of Mass. G.L. c. 62C s. 49A.

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
101.	0.02	CLEARING AND GRUBBING AT _____ PER ACRE		
102.1	40.00	TREE TRIMMING AT _____ PER FOOT		
102.511	15.00	TREE PROTECTION - ARMORING & PRUNING AT _____ PER EACH		
102.513	100.00	AIR EXCAVATION AND ROOT PRUNING AT _____ PER FOOT		
102.521	50.00	TREE AND PLANT PROTECTION FENCE AT _____ PER FOOT		
103.	6.00	TREE REMOVED - DIAMETER UNDER 24 INCHES AT _____ PER EACH		
104.	2.00	TREE REMOVED - DIAMETER 24 INCHES AND OVER AT _____ PER EACH		
105.	4.00	STUMP REMOVED AT _____ PER EACH		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
120.1	750.00	UNCLASSIFIED EXCAVATION AT _____ PER CUBIC YARD		
120.12	90.00	EXCAVATION FOR ROAD WIDENING AND RELOCATION AT _____ PER CUBIC YARD		
125.	80.00	TOPSOIL EXCAVATED AND STACKED AT _____ PER CUBIC YARD		
141.	200.00	CLASS A TRENCH EXCAVATION AT _____ PER CUBIC YARD		
141.1	30.00	TEST PIT FOR EXPLORATION AT _____ PER CUBIC YARD		
142.	10.00	CLASS B TRENCH EXCAVATION AT _____ PER CUBIC YARD		
144.	20.00	CLASS B ROCK EXCAVATION AT _____ PER CUBIC YARD		
146.	2.00	DRAINAGE STRUCTURE REMOVED AT _____ PER EACH		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
151.	900.00	GRAVEL BORROW AT _____ PER CUBIC YARD		
151.2	120.00	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES AT _____ PER CUBIC YARD		
156.	20.00	CRUSHED STONE AT _____ PER TON		
170.	2,600.00	FINE GRADING AND COMPACTING - SUBGRADE AREA AT _____ PER SQUARE YARD		
201.	4.00	CATCH BASIN AT _____ PER EACH		
204.	4.00	GUTTER INLET AT _____ PER EACH		
220.	4.00	DRAINAGE STRUCTURE ADJUSTED AT _____ PER EACH		
220.2	10.00	SANITARY STRUCTURE REBUILT AT _____ PER FOOT		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
220.5	5.00	SANITARY STRUCTURE REMODELED AT _____ PER EACH		
222.3	11.00	FRAME AND GRATE (OR COVER) MUNICIPAL STANDARD AT _____ PER EACH		
222.5	1.00	FRAME AND COVER - "D-TYPE" AT _____ PER EACH		
223.1	5.00	FRAME AND GRATE (OR COVER) REMOVED AND STACKED AT _____ PER EACH		
223.2	2.00	FRAME AND GRATE (OR COVER) REMOVED AND DISCARDED AT _____ PER EACH		
227.4	5.00	MASONRY PLUG AT _____ PER SQUARE FOOT		
241.12	80.00	12 INCH REINFORCED CONCRETE PIPE CLASS III AT _____ PER FOOT		
303.06	10.00	6 INCH DUCTILE IRON WATER PIPE (MECHANICAL JOINT) AT _____ PER FOOT		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
358.	2.00	GATE BOX ADJUSTED AT _____ PER EACH		
376.2	2.00	HYDRANT - REMOVED AND RESET AT _____ PER EACH		
376.5	1.00	HYDRANT - ADJUSTED AT _____ PER EACH		
390.	3.00	SPRINKLERS MODIFIED AT _____ PER EACH		
402.	5.00	DENSE GRADED CRUSHED STONE FOR SUB-BASE AT _____ PER CUBIC YARD		
431.	100.00	HIGH EARLY STRENGTH CEMENT CONCRETE BASE COURSE AT _____ PER SQUARE YARD		
443.	5.00	WATER FOR ROADWAY DUST CONTROL AT _____ PER M. GALLONS		
450.22	20.00	SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5) AT _____ PER TON		
450.32	10.00	SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0) AT _____ PER TON		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
451.	90.00	HMA FOR PATCHING AT _____ PER TON		
452.	10.00	ASPHALT EMULSION FOR TACK COAT AT _____ PER GALLON		
453.	1,700.00	HMA JOINT ADHESIVE AT _____ PER FOOT		
470.	5.00	HOT MIX ASPHALT BERM AT _____ PER TON		
472.	40.00	TEMPORARY ASPHALT PATCHING AT _____ PER TON		
482.5	270.00	SAWCUTTING ASPHALT PAVEMENT FOR BOX WIDENING AT _____ PER FOOT		
504.	40.00	GRANITE CURB TYPE VA4 - STRAIGHT AT _____ PER FOOT		
504.1	20.00	GRANITE CURB TYPE VA4 - CURVED AT _____ PER FOOT		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
509.	720.00	GRANITE TRANSITION CURB FOR PEDESTRIAN RAMPS - STRAIGHT AT _____ PER FOOT		
509.1	140.00	GRANITE TRANSITION CURB FOR PEDESTRIAN CURB RAMPS - CURVED AT _____ PER FOOT		
570.3	2,500.00	HOT MIX ASPHALT CURB TYPE 3 AT _____ PER FOOT		
580.	60.00	CURB REMOVED AND RESET AT _____ PER FOOT		
594.	110.00	CURB REMOVED AND DISCARDED AT _____ PER FOOT		
669.	10.00	FENCE REMOVED AND STACKED AT _____ PER FOOT		
669.1	10.00	FENCE REMOVED AND DISPOSED AT _____ PER FOOT		
670.	60.00	FENCE REMOVED AND RESET AT _____ PER FOOT		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
685.	120.00	STONE MASONRY WALL IN CEMENT MORTAR AT _____ PER CUBIC YARD		
691.	60.00	BALANCE STONE WALL REMOVED AND REBUILT AT _____ PER FOOT		
697.1	25.00	SILT SACK AT _____ PER EACH		
697.2	50.00	COMPOST SOCK AT _____ PER LINEAR FOOT		
701.	20.00	CEMENT CONCRETE SIDEWALK AT _____ PER SQUARE YARD		
701.2	210.00	CEMENT CONCRETE PEDESTRIAN CURB RAMP AT _____ PER SQUARE YARD		
702.	440.00	HOT MIX ASPHALT SIDEWALK OR DRIVEWAY AT _____ PER TON		
706.7	40.00	MISCELLANEOUS WALK TREATMENT AT _____ PER SQUARE YARD		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
715.	21.00	RURAL MAIL BOX REMOVED AND RESET AT _____ PER EACH		
734.1	1.00	CONSERVATORY AREA SIGN REMOVED AND RESET AT _____ PER EACH		
751.	80.00	LOAM FOR ROADSIDES AT _____ PER CUBIC YARD		
752.	75.00	TOPSOIL REHANDLED AND SPREAD AT _____ PER CUBIC YARD		
765.	1,240.00	SEEDING AT _____ PER SQUARE YARD		
767.6	10.00	AGED PINE BARK MULCH AT _____ PER CUBIC YARD		
771.060	9.00	BUSH OR SHRUB TRANSPLANTED - LESS THAN 5 FEET HEIGHT AT _____ PER EACH		
776.523	2.00	MAPLE - RED 2-2.5 INCH CALIPER AT _____ PER EACH		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
776.836	4.00	MAPLE - SUGAR 2-2.5 INCHES CALIPER AT _____ PER EACH		
832.	240.00	WARNING-REGULATORY AND ROUTE MARKER - ALUMINUM PANEL (TYPE A) AT _____ PER SQUARE FOOT		
847.1	22.00	SIGN SUP (N/GUIDE)+RTE MKR W/1 BRKWAY POST AASEMBLY - STEEL AT _____ PER EACH		
852.	470.00	SAFETY SIGNING FOR TRAFFIC MANAGEMENT AT _____ PER SQUARE FOOT		
854.1	220.00	PAVEMENT MARKING REMOVAL AT _____ PER SQUARE FOOT		
859.	9,000.00	REFLECTORIZED DRUM AT _____ PER DAY		
860.112	600.00	12 INCH REFLECTORIZED WHITE LINE (PAINTED) AT _____ PER FOOT		
861.106	600.00	6 INCH REFLECTORIZED YELLOW LINE (PAINTED) AT _____ PER FOOT		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
861.112	40.00	12 INCH REFLECTORIZED YELLOW LINE (PAINTED) AT _____ PER FOOT		
866.112	100.00	12 INCH REFLECTORIZED WHITE LINE (THERMOPLASTIC) AT _____ PER FOOT		
874.2	10.00	TRAFFIC SIGN REMOVED AND RESET AT _____ PER EACH		
874.41	1.00	TRAFFIC SIGN REMOVED AND DISCARDED AT _____ PER EACH		
901.	2.00	4000 PSI, 1.5 INCH, 565 CEMENT CONCRETE AT _____ PER CUBIC YARD		
903.	2.00	3000 PSI, 1.5 INCH, 470 CEMENT CONCRETE AT _____ PER CUBIC YARD		
910.	90.00	STEEL REINFORCEMENT FOR STRUCTURES AT _____ PER POUND		

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
BASE BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
999.	900.00	TRAFFIC POLICE DETAIL AT _____ PER HOUR	\$55.00	\$49,500.00

TOTAL AMOUNT OF **BASE BID BASED ON ENGINEER'S ESTIMATE OF QUANTITIES:**

Total Amount in Writing Dollars and Cents Dollars (\$)

**TOWN OF LEXINGTON, MASSACHUSETTS
CEDAR STREET SIDEWALK PROJECT
ADD-ALTERNATIVE 1 BID TABULATION**

ITEM NO.	QTY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
504.31	2,500.00	GRANITE CURB UPGRADE AT _____ PER FOOT		

TOTAL AMOUNT OF **ADD-ALTERNATE 1** BASED ON ENGINEER'S ESTIMATE OF QUANTITIES:

Total Amount in Writing Dollars and Cents

Dollars (\$ _____)

TOTAL BASE BID PRICE: _____

TOTAL ADD-ALTERNATE 1 BID PRICE _____

TOTAL AMOUNT OF PROPOSAL BASED ON ENGINEER'S ESTIMATE OF QUANTITIES:

TOTAL BASE BID PLUS ADD-ALTERNATE 1 _____

DATE _____ (Name of general Bidder)

_____ (Title)

SEAL (if Bid by a Corporation) _____ (Business Address)

ATTEST _____ (City and State)

_____ (Telephone number)

NOTE: If the General Bidder is a corporation, indicate State of Corporation under signature and affix corporate seal; if a partnership, give full names and residential address of all parties; and if an individual give residential address if different from business

TOWN OF LEXINGTON

CEDAR STREET SIDEWALK CONTRACT #25-84

THIS AGREEMENT, made the _____ day of _____, 20____, by and between the Town of Lexington, Massachusetts acting through its Town Manager, hereinafter called the Town and

with legal address and principal place of business at

hereinafter called the Contractor.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the Town, the Contractor hereby agrees with the Town to commence CEDAR STREET SIDEWALK CONTRACT #25-84, hereinafter called the project, for the consideration set forth in the proposal and all extra work in connection therewith, under the terms as stated in the conditions of the contract; and at his/her own proper cost and expense to furnish all materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the proposal, the specifications, and drawings prepared therefor and as enumerated on the table of contents sheet, all of which are made a part hereof and collectively evidence and constitute the contract.

The Contractor hereby agrees to commence work under this contract within ten working days of the execution of this contract and to fully complete the project within the time specified in section 0200 of these contract documents.

The Town agrees to pay the Contractor for the performance of the Contract, subject to additions and deductions; and to make Payments on account thereof as provided in the Specifications of the contract.

WITNESS WHEREOF: the parties to these presents have executed this Contract in the year and day first above mentioned.

BY: _____
Steve Bartha, Town Manager
for the Town of Lexington, MA

CONTRACTOR:

BY: _____

As required by Chapter 693 of the Acts of 1964, this is to certify that the Town has an appropriation which is adequate to cover the cost of the contract.

Date	Signed
------	--------

Town Accountant

The Certificate shall be signed by the Auditor or Accountant or other Officer of the Town of Lexington, Massachusetts having similar duties and the Official Title noted below the Signature.

Note: If the Bidder to whom the Contract is awarded is a Corporation, a Certificate of Vote giving the officer the right to sign the Contract must accompany the executed Contract. The form on page 0600-3 can be used for this purpose.

CERTIFICATE OF VOTE **(Corporations Only)**

At a duly authorized meeting of the Board of Directors of the _____ Name of corporation
held on _____ it was VOTED, That

Date

Name _____ Officer _____

of this company, be and hereby is authorized to execute contracts and bonds in the name and on behalf of said company, and affix its corporate seal hereto; and such execution of any contract or obligation in this company's name on its behalf by such officer under seal of the company, shall be valid and binding upon this company.

I hereby certify that I am the clerk of the above named corporation and that

_____ is the duly elected officer as above of said company, and that the above vote has not been amended or rescinded and remains in full force and effect as the date of this contract.

Date

Clerk

Corporate Seal

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____
having a usual place of business in _____
As PRINCIPAL, and _____
a corporation duly organized and existing under the laws of _____
and authorized to do business in the Commonwealth of Massachusetts as SURETY, are hereby held and firmly
bound unto the Town of Lexington, Massachusetts in the sum of
(\$_____) to be paid the said Town of Lexington, Massachusetts for which payment, well and truly to
be made, we hereby bind ourselves, jointly and severally, firmly by these presents.

WHEREAS, The said principal has made a contract with the said Town of Lexington, Massachusetts bearing date _____ day of _____, 20____, in accordance with drawings and specifications prepared
therefor, which contract is hereto annexed, the terms of which are herein referred to and hereby made a part of these
presents; and

WHEREAS, The said surety has examined the said contract, its agreements, terms, covenants and conditions, and
the plans referred to herein, and assents thereto.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH, That if the above bounden, its heirs, executors,
administrators, successors and assigns, shall in all things stand to and abide by, and well and truly keep and perform,
the covenants, conditions, and agreements in the said contract and any alterations thereof made as therein provided,
on its or their part to be kept and performed at the time and in the manner therein specified, and in all respects
according to their true intent and meaning, and shall indemnify its officers and agents, as therein stipulated.

Then this obligation shall become and be null and void; otherwise it shall be and remain in full force and virtue.

AND the said surety for value received, hereby stipulates and agrees that no change, extension of time, alteration or
addition to the terms of the contract or to the work performed thereunder or the specifications accompanying the
same shall in anywise affect its obligations on this bond and it does hereby waive notice of any such change,
extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

IN WITNESS WHEREOF, The principal has caused these presents to be signed in its name and behalf and its corporate seal to be here to affixed by _____
its _____, and _____
its _____, thereto duly authorized, and the said surety has caused these presents to be signed in its name and behalf and its corporate seal to be hereto affixed by ...

its _____, and _____
its _____, thereto duly authorized at
_____, on this _____ day of _____
two thousand and _____.

PRINCIPAL

_____ (Seal)
_____ (Seal)

SURETY

_____ (Seal)
_____ (Seal)

Signed and sealed in the presence of

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, That _____
having a usual place of business in _____
As PRINCIPAL, and _____
a corporation duly organized and existing under the laws of _____ and authorized to do
business in the Commonwealth of Massachusetts as SURETY, are hereby held and firmly bound unto the Town of
Lexington, Massachusetts in the sum of _____ (\$_____) to be paid the said
Town of Lexington, Massachusetts for which payment, well and truly to be made, we hereby bind ourselves, our
heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, The said principal has made a contract with the said Town of Lexington, Massachusetts bearing date

day of _____, 20_____, for the completion of
_____ in accordance with drawings and specifications prepared therefor, which
contract is hereto annexed, the terms of which are herein referred to and hereby made a part of these presents; and

WHEREAS, The said surety has examined the said contract, its agreements, terms, covenants and conditions, and
the plans referred to herein, and assents thereto.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden, its heirs, executors,
administrators, successors and assigns, shall pay for all labor performed or furnished, for all materials used or
employed in the work and for the rental of appliances and equipment employed in the carrying out of said contract,
and shall indemnify and save harmless the said Town of Lexington, Massachusetts its officers and agents as therein
stipulated.

Then this obligation shall become and be null and void; otherwise it shall be and remain in full force and virtue.

AND the said surety for value received, hereby stipulates and agrees that no change, extension of time, alteration or
addition to the terms of the contract or to the work performed here-under or the specifications accompanying the
same shall in anyway affect its obligations on this bond and it does hereby waive notice of any such change,
extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

This bond is made for the use and benefit of all persons, firms, and corporations who may furnish any material or
perform any labor for or on account of said contract, or rent or hire out any appliances and equipment used or
employed in the execution of said contract, and they and each of them are hereby made obligees hereunder the same
as if their own proper respective names were written herein as such, and they and/or each of them may proceed or
sue hereon.

IN WITNESS WHEREOF, The principal has caused these presents to be signed in its name and behalf and its corporate seal to be here to affixed by _____
its _____, and _____
its _____, thereto duly authorized, and the said surety has caused these presents to be signed in its name and behalf and its corporate seal to be hereto affixed by ...

its _____, and _____
its _____, thereto duly authorized at
_____, on this _____ day of _____
two thousand and _____.

PRINCIPAL

_____ (Seal)
_____ (Seal)

SURETY

_____ (Seal)
_____ (Seal)

Signed and sealed in the presence of

CERTIFICATE OF GOOD FAITH

The undersigned certifies under penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this paragraph, the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

Signature: _____

Date: _____

CERTIFICATE OF OSHA TRAINING OF PERSONNEL

The undersigned certifies that all persons they employ at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) that is at least ten (10) hours in duration at the time the employee begins work and shall furnish documentation of successful completion of said course with the first certified payroll report for each employee.

Signature: _____

Date: _____

**SECTION 0800
SPECIAL PROVISIONS**

**DIVISION I
GENERAL REQUIREMENTS AND COVENANTS**

**SECTION 2.00
PROPOSAL REQUIREMENTS AND CONDITIONS**

Delete all references to www.bidx.com and www.commbuys.com throughout this section.

SUBSECTION 2.02 INTERPRETATION OF BASIC ESTIMATE OF QUANTITIES

Add the following at the end of this subsection:

Certain items in the Bid cover classes of work of uncertain necessity or work for which it is impractical to estimate approximate quantities. Such items have been marked "indeterminate".

SUBSECTION 2.03 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS AND SITE OF WORK

Add the following at the end of this subsection:

The plans for this contract, when applicable, have been prepared in part from field survey, utility company plans and other available sources. The accuracy and/or precision of this information are not guaranteed to be correct. Accordingly, it is the responsibility of the Contractor to verify all measurements and features of the project area by his own investigation and research.

SUBSECTION 2.04 PREPARATION OF BIDS

The bidder shall follow the instructions provided in the Invitation to Bid.

SUBSECTION 2.05 DELIVERY OF PROPOSALS

Replace this subsection with the following:

The Bidder shall submit to the location specified in the "Invitation to Bid" prior to the time set for opening of the bid with Bid properly sealed, delivered or mailed in accordance with the instructions printed thereon.

SUBSECTION 2.07 WITHDRAWAL OF PROPOSALS

Replace this subsection with the following:

Except as hereinafter in this subsection otherwise provided, once a Bid is submitted and received by the Owner for consideration and comparison with other bids similarly submitted, the Bidder agrees that he may not and will not withdraw it within 30 consecutive calendar days after the actual date of the opening of bids.

Upon proper written request and identification, Bids may be withdrawn as follows:

1. At any time prior to the designated time for the opening of bids.
2. Death or serious injury of a principal.
3. With the approval of the Town.
4. At any time after the expiration of the period during which withdrawal is prohibited provided the bid has not been accepted by the Town.

Unless a Bid is withdrawn as provided above, the Bidder agrees that it shall be deemed open for acceptance until the Contract has been executed by both parties thereto or until the Owner notifies a Bidder in writing that his Bid is rejected or that the Owner does not intend to accept it, or returns his Bid deposit. Notice of acceptance of a Bid shall not constitute rejection of any other Bid.

SUBSECTION 2.08 PUBLIC OPENING OF PROPOSALS

The opening will follow the procedures set forth in the Invitation to Bid.

**SECTION 3.00
AWARD AND EXECUTION OF THE CONTRACT****SUBSECTION 3.03 RETENTION OF PROPOSAL GUARANTY**

Replace this subsection with the following:

Each bid check or bid bond amount may be retained by the Owner as security for the fulfillment of the Bidder's agreements as specified in subsection 2.06 and as set forth in the Bid. Should the Bidder fail to fulfill such agreements, his bid check shall become the property of the Owner or if a bid bond was furnished, the bid bond shall become payable to the Owner as liquidated damages; otherwise, the bid check shall be returned to the bidder as hereinafter provided, or if the security is a bid bond, the bid bond shall be declared null and void.

Bid checks will be returned to all except the three lowest bidders within five days, Sundays and legal holidays excluded, after the opening of Bids and to the three lowest bidders within five days, Sundays and legal holidays excluded, after the owner and accepted Bidder have executed the Contract agreement. In the event that the Contract agreement has not been executed by both the Owner and the accepted Bidder within 30 consecutive days after the opening of Bids, the bid check will be returned promptly upon demand of any Bidder who has not been notified of the acceptance of his Bid.

Bid checks accompanying Bids which are rejected will be returned within five days, Sundays and legal holidays excluded, after rejection.

None of the three lowest Bids shall be deemed rejected, notwithstanding acceptance of any Bid, until the Contract an agreement has been executed by both the Owner and the accepted Bidder.

SUBSECTION 3.05 EXECUTION OF CONTRACT

Replace the number 3 with the words "10 working".

**SECTION 4.00
SCOPE OF WORK****SUBSECTION 4.01 INTENT OF THE CONTRACT**

Add the following at the end of the first paragraph:

Additionally, the Contractor is responsible for satisfying all requirements set forth in the Order of Conditions (when applicable) as well as any additional documents that are located in the appendices.

SUBSECTION 4.02 ALTERATIONS

Add the following at the end of this subsection:

Except in an emergency endangering life or property, no change shall be made unless in pursuance of a written order from the Engineer authorizing the change and no claim for additional compensation shall be valid unless the change is so ordered.

SUBSECTION 4.10 FINAL CLEANING UP

Replace this entire subsection with the following:

4.10 CLEANING UP

The Contractor shall at all times and at his own expense keep the site of the work free from rubbish and debris caused by his operations under the Contract.

Upon completion of the work and before acceptance and final payment, the Contractor shall remove and dispose of in an approved manner, at his own expense, from the right-of-way, construction site and adjoining property, all temporary structures and all surplus materials and rubbish which the Contractor may have accumulated during the prosecution of the work, and shall leave the areas in a neat and orderly condition.

No equipment or material shall be left within any of the aforementioned areas after acceptance of the Contract without the written permission of the Engineer. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

Add the following new subsection:

4.11 UTILITY MAINTENANCE

It shall be the Contractor's responsibility to maintain the drainage system in the areas under construction until such time the final system is put into use. Pipes and structures requiring cleaning as a result of sediment accumulation from construction operations shall be cleaned without additional compensation.

**SECTION 5.00
CONTROL OF WORK****SUBSECTION 5.01 AUTHORITY OF THE ENGINEER**

Add the following at the end of this subsection:

The Engineer shall be the owner's representative during the life of the Contract and he shall observe the Work in progress on behalf of the Owner.

The Contractor shall proceed without delay to perform the work as directed, instructed, determined or decided by the Engineer and shall comply promptly with such directions, instructions, determinations or decisions. If the Contractor has any objection thereto he may, within 10 days of having received any such direction, instruction, determination or decision, require that any such direction, instruction, determination or decision be put in writing and within 10 days after receipt of any such writing he may file a written protest with the Owner stating clearly and in detail his objections, the reasons therefor, and the nature and amount of additional compensation, if any, to which he claims he will be entitled thereby. A copy of such protest shall be filed with the Engineer at the same time it is filed with the owner. Unless the Contractor requires that any such direction, instruction, determination or decision be put in writing within 10 days of having received such direction, instruction, determination or decision and unless the Contractor files such written protest with the owner and Engineer within such 10 day period, he shall be deemed to have waived all grounds for protest of such direction, instruction, determination, or decision and all claims for additional compensation or damages occasioned thereby, and shall further be deemed to have accepted such direction, instruction, determination, or decision as being fair, reasonable, and finally determinative of his obligations and rights under the Contract.

SUBSECTION 5.05 COOPERATION BY CONTRACTOR

Add the following at the end of the second paragraph of this subsection:

He/She shall have full authority to execute the directions of the Engineer without delay and to supply promptly such labor, services, materials, equipment, plant, apparatus, appliances, tools, supplies and other items as may be required. Such superintendent shall not be removed from the work without the prior written consent of the Engineer.

If, in the opinion of the Engineer, the superintendent or any successor proves incompetent, the Contractor shall replace him with another person approved by the Engineer; such approval, however, shall in no way relieve or diminish the Contractor's responsibility for the work.

SUBSECTION 5.07 CONSTRUCTION (STAKES) STAKINGS*Replace this entire subsection with the following:*

The Town will furnish general benchmark control for the project.

The Contractor, at his/her own expense, will furnish the following survey work:

- A. Establishment of base lines or centerlines of construction for main roadways, ramp service roads, side streets and other major dry land items. Reproduction of base lines and centerlines, or lines offset to them when roadway cuts and fills have been completed. Levels may be taken on the points marking these lines.
- B. Original grade stakes at 50' intervals giving finished grades as per plan.
- C. Preliminary and final surveys of pits (if borrow is paid by pit measure) and dredging areas, semifinal cross sections on ledge, peat, loam, etc.
- D. Control for structures, which shall consist of range lines on centerline of bearings or centerline of piers, face of abutments and wingwalls, horizontal and vertical control for beam seats, along with benchmarks close to structures for vertical control. Structures shall include but shall not be limited to bridges, culverts, dams, buildings and walls.
- E. Control for alignment of curbing or edging on ramps and at other complicated locations.
- F. Bound points and sideline stakes.
- G. All necessary stakes for pipes and head walls, and establish all catch basin and manhole locations as to line and grade.

The Contractor shall employ qualified engineering personnel to insure adequate control and shall furnish and set stakes of the quality used by the Department for control staking. Rough stakes may be used to denote top and bottom of slopes, edge of pavement, gutter lines, etc.

The Contractor shall furnish and set, at his/her own expense, all stakes (such as batter boards, slope stakes, pins, offset stakes, etc.) required for the construction operations and he shall be solely responsible for the accuracy of the line and grade of all features of his/her work.

The Contractor shall be held responsible for the preservation of all stakes and marks. If any of such stakes or marks are disturbed or destroyed the cost of replacing them shall be at the contractor's expense.

SUBSECTION 5.09 INSPECTION OF THE WORK*Add the following at the end of the first paragraph of this subsection:*

The Contractor shall at all times provide safe and proper facilities therefor.

SECTION 6.00 CONTROL OF MATERIALS

SUBSECTION 6.03 DELIVERY AND STORAGE OF MATERIALS

Add the following at the end of this subsection:

THE DEPARTMENT WILL NOT ACCEPT ANY MATERIALS DELIVERED TO ANY PROJECT IN MOTOR VEHICLES OR SEMI-TRAILER UNITS THAT EXCEED THE LEGAL MAXIMUM GROSS WEIGHT ALLOWED FOR THE PARTICULAR CLASS, AS SPECIFIED IN SECTION 19A OF CHAPTER 90 OF THE GENERAL LAWS OF MASSACHUSETTS.

SECTION 7.00 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

SUBSECTION 7.01 LAWS TO BE OBSERVED, PART A. GENERAL

Add the following at the end of this subsection:

The Contractor shall protect, indemnify and save harmless the Owner, its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgements, penalties, losses, damages, costs and expenses, including attorney's fees, arising from or based upon any violation or claimed violation of any such law, ordinance, rule, regulation, order, decree or other requirement, whether committed by the Contractor or any of his agents, servants, employees or Subcontractors.

Each and every provision of law and clause required by law to be inserted in the Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though they were included herein. If through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Contract shall be forthwith be physically amended to make such insertion.

SUBSECTION 7.01 LAWS TO BE OBSERVED, PART D. CONSTRUCTION NOISE CONTROL

Add the following at the end of this subsection:

The contractor shall also comply with all applicable town bylaws, laws and regulations

SUBSECTION 7.05 INSURANCE REQUIREMENTS

Add the following at the end of this subsection:

The limits of the several kinds of liability insurance required for this Contract, in addition to insurance for Workmen's Compensation are as listed as follows:

The following types of insurance shall be provided by the Contractor:

- a. Comprehensive General and Public Liability Insurance in an amount not less than \$1,000,000 per occurrence and in an amount not less than \$3,000,000 aggregate.
- b. Bodily Injury Insurance covering the operation of all motor vehicles owned by the Contractor, in the amounts of \$1,000,000 for any one person, \$3,000,000 for any one accident.

- c. Property Damage Insurance covering the operation of all motor vehicles owned by the Contractor, in the amounts of \$1,000,000 for any one accident, \$3,000,000 aggregate.
- d. Insurance to cover bodily injury and property damage resulting from the use of motor vehicles not owned by the Contractor, while such vehicles are being operated in conjunction with the prosecution of the Work under this contract, in the amount required under b) and c) above.
- e. Worker's Compensation and Employer's Liability as required by the General Laws of the Commonwealth of Massachusetts.

All policies shall be so written that the certificate holder, namely the Town of Lexington, 1625 Massachusetts Avenue, Lexington, MA 02420 is insured at no cost to the Town for the full amounts stated above.

The Contractor shall name the Town of Lexington as an additional insured.

SUBSECTION 7.09 PUBLIC SAFETY AND CONVENIENCE

Add the following at the end of this subsection:

During construction, the Contractor shall maintain at least one 12-foot travel lane during the day and shall open the road up to two-way traffic at night. It is the Contractor's responsibility to obtain approval for any lane closings, delays or detours at least 24 hours in advance by the Town of Lexington Engineering Division. Additionally sidewalks must be left open at all times or proper accessible pedestrian detour put in place prior to closure.

The Contractor shall remove at their own expense any and all equipment from roadways as directed by the Engineer and/or the Safety Officer at the conclusion of the working day.

The Contractor shall maintain access to all drives at all times. If access to any drives cannot be maintained, the Contractor shall notify the Engineer and persons affected, in writing, at least one week in advance of the planned discontinuance. In any case, the access shall not be discontinued for more than two consecutive days without obtaining the written authorization of the Engineer.

All construction shall be completed to Intermediate (binder) course in all phase prior to applying any surface course. Surface course shall be applied continuously in an effort to minimize jointing. Where joints are required, the relevant provisions of Section 450 shall be employed.

SUBSECTION 7.11 TRAFFIC OFFICERS AND RAILROAD FLAGGING SERVICE

Replace the first three paragraphs of this subsection with the following:

Traffic Police Details and Fire Details shall be provided for as stipulated in Section 850 of the Special Provisions for the Contract.

SUBSECTION 7.13 PROTECTION AND RESTORATION OF PROPERTY

Add the following at the end of this subsection:

A. Protection of Utilities and Property

The Contractor shall be responsible for locating, maintaining and protecting all existing utilities. Pipes or other structures damaged by the Contractor may be repaired by the Town, Department, or utility company that suffers the loss. The cost of such repairs shall be at the expense of the Contractor. Should any damage to a utility caused by the Contractor result in an emergency, the Contractor shall promptly warn the Owner and, if requested, furnish laborers to work temporarily under the Owner's direction in gaining access to the utility.

If live service connections are to be interrupted by excavation of any kind, the Contractor shall not break the service until new or temporary services are provided. Abandoned services shall be plugged off or otherwise made secure.

The Contract Plans indicate the location of existing known utilities in the vicinity of the work. Bidders are cautioned to verify this information, as its accuracy and completeness are not guaranteed in any manner.

B. Notice to Owners of Utilities

Written notice shall be given by the Contractor to all public service corporations or officials owning or having charge of publicly or privately owned utilities of his/her intention to commence operations affecting such utilities at least one week in advance of the commencement of such operations, and the Contractor shall at that time file a copy of such notice with the Engineer.

Before the Contractor begins any work or operations that might damage any subsurface structures, he shall carefully locate all such structures and conduct his/her operations so as to avoid any damage to them.

The Contractor shall hand deliver notices to abutting properties at least 24 hours before the start of construction. The notice will indicate the timing of the construction and any access restrictions or other inconveniences that may result.

The Contractor shall notify and coordinate with Waste Management, the Town's waste disposal contractor when construction activities will correspond with waste pickup. A pickup schedule is included in the Scope of Work.

The Contractor shall notify and coordinate with school bus and transit companies when construction operations will affect routes.

Function	Company	Contact	Number
Waste Disposal	JRM		800-323 4285
School Bus	C&W Transportation		781-862-4747
LEXPRESS	Town of Lexington	Susan Barrett	781-861-1210
Liberty Ride		Casey Haggerty	781-698-4568

COORDINATION OF UTILITIES

The following is contact information of the principal utilities affected, but completeness of this list is not guaranteed. It will be the contractor responsibility to verify this contact information and to notify the Town of changes to this list.

Telecommunications:

RCN Cable
Kenneth Bates, Engineer 4
Margot Jones, Engineering Manager
Alex Ortiz, Construction Manager
RCN Corporation
956 Mass. Ave.
Arlington, MA 02476
O: 781-316-8885
C: 617-293-0201
F: 781-316-8887
margot.jones@rcn.net
alex.ortiz@rcn.net
Ken.bates@rcn.net

Comcast Cable
Wendy Brown, Cost Recovery Analyst
Comcast Cable Corporation
676 Island Pond Road
Manchester, NH. 03109
603-541-1082
Wendy_Brown@comcast.com

Verizon
Verizon Engineering Center
Mike Barros
385 Myles Standish Blvd
Taunton, MA 02780
866-686-1195
ma-ri.osp.center@verizon.com

Level 3 Communications
Pat Provost, Business Analyst, OSP Relocations
Level 3 Communications
1025 El Dorado Blvd
Broomfield, CO 80021
720-888-0916
relo@centurylink.com

186 Comm c/o Waveguide Inc.
Jeff Harrington ,OSP Construction
359 Corporate Dr.
Portsmouth, NH 03801
C: 617-999-5371 |
jharrington@firstlight.net | www.firstlight.net

AT&T
Hayleigh Walker-Kurland, Project Coordinator
Siena Engineering Group, Inc
50 Mall Road, Suite 203
Burlington, MA 01803
781- 221-8400 x7023
Hayleigh.Walker@sienaengineeringgroup.com

Gas:

NationalGrid
Gene Au, Project Engineer
40 Sylvan Rd
Waltham MA 02451
781-907-3813
gene.au@nationalgrid.com

Tennessee Gas Pipeline
David Wood
8 Anngina Drive
Enfield, CT 06082
O: 860-763-6005
C: 413-530-7117
David_wood@kindermorgan.com

Electricity:

Eversource
Kelly-Ann Correia, Supervisor, Rights, Permits
and Public Works
200 Calvary St
Waltham, MA 02453
508-305-7163
kelly-ann.correia@eversource.com

Water and Sewer:

Town of Lexington Water/Sewer Department
Dave Pavlik, W/S Superintendent
201 Bedford Street
Lexington, MA 02421
781-274-8300
dpavlik@lexingtonma.gov

Kevin McKenna
MWRA-Wastewater
2 Griffin Way
Chelsea, Ma. 02150
617-305-5956
kevin.mckenna@mwra.com

Ralph Francesconi
MWRA-Water
2 Griffin Way
Chelsea, Ma. 02150
617-305-5827
Ralph.Francesconi@mwra.com

C. Protection of Underground Facilities

The Contractor's attention is directed to the necessity of making his/her own investigation in order to assure that no damage to existing structures, drainage lines, etc., will occur.

The Contractor shall notify 'Mass DIG SAFE' and procure a DIG SAFE number for each location prior to disturbing existing ground in any way. The contractor shall notify **Lexington DPW** in addition to **DigSAFE** as Lexington is currently not a member.

DIG SAFE Call Center (888) 344-7233

The Contractor shall be responsible for informing utility owners in the event of any disruption of service or damage of any utility, marked or not. THE CONTRACTOR SHALL HAVE A MEANS OF TELEPHONE COMMUNICATION AND CONTACT NUMBERS ON SITE AT ALL TIMES.

D. Property Bounds

Should any damage to a bound result from the actions of the Contractor, the bound shall be replaced and/or realigned by the Contractor as directed by the Engineer. No further compensation will be due the Contractor for the materials and labor required to re-establish the bound in its proper position as shown on the plans.

SUBSECTION 7.18 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

Replace the second paragraph of this subsection with the following:

The Contractor shall take all precautions necessary to prevent damage to the work by storms or by water entering the site of the work directly or through the ground. In case of damage by storm or water, the Contractor shall at his own cost and expense make such repairs or replacements or rebuild such parts of the work as the Engineer may require in order that the finished work may be completed as required by the Contract.

The Contractor shall bear all losses resulting to him on account of the amount or the character of the work or because the nature of the land in or on which the work is done is different from what was estimated or expected, or other causes (except as stated in Subsection 4.04, Changed Conditions).

Concurrent work may be in progress in the project area by others, including but not limited to, the Town and various utility companies. The Contractor is required to coordinate his activities with all work by others within and adjacent to the project limits.

SUBSECTION 7.19 PERSONAL LIABILITY OF PUBLIC OFFICIALS

Replace all references to "the Commonwealth" with "the Town".

**SECTION 8.00
PROSECUTION AND PROGRESS****SUBSECTION 8.03 PROSECUTION OF WORK**

Add the following at the end of the first paragraph of this subsection:

The Engineer will schedule and administer progress meetings and specially called meetings throughout the duration of the Work at minimum weekly intervals. The time and location of such meetings shall be designated by the Engineer and shall be convenient for all parties involved. The Engineer will prepare agenda with copies for participants, preside at meetings, record minutes, and distribute copies to participants, and those affected by decisions made. The Contractor shall provide precision looking schedule 10 days ahead to ensure proper notification of businesses.

The Contractor shall follow the requirements for Traffic Management unless otherwise directed by the Town. Traffic Management Typical Details are included as part of the contract documents.

The Contractor shall prepare and submit to the Town a proposed work schedule which complies with the plans and specifications. No work shall begin until the Town's approval of the schedule. A traffic control plan must be submitted a minimum of 10 days before construction starts in any given area.

SUBSECTION 8.05 CLAIM FOR DELAY OR SUSPENSION OF THE WORK

Replace all references to "the Commission" with "the Town".

Add the following at the end of this subsection:

If in the event the Contractor shall make a claim for delay or suspension of the work, the Contractor shall continue prosecution of the work during the period pending resolution of the claim or delay.

SUBSECTION 8.09 DELAY AND SUSPENSION OF THE WORK

Replace all references to "the Commonwealth" with "the Town".

SUBSECTION 8.10 DETERMINATION & EXTENSION OF CONTRACT TIME FOR COMPLETION

Add the following at the end of this subsection:

The Contractor shall suspend all work in streets between November 15 and Partiots Day, unless otherwise permitted by the Engineer. The time for completion established for the contract has already taken into account the shutting down operations for the winter.

Add the following new subsection:

SUBSECTION 8.14 NIGHT, SATURDAY, SUNDAY AND HOLIDAY WORK

Work on this project is restricted to a normal eight hour day (7:00 AM to 5:00 PM), five-day week, with the Prime Contractor and all Subcontractors working on the same shift. No work shall be done at night, on Saturdays, Sundays or Town observed Holidays except (1) usual protective work, such as pumping and the tending of fires, (2) work done in case of emergency threatening injury to persons or property, or (3) if all of the conditions set forth in the following paragraph below are met:

No work other than that included in (1) and (2) above shall be done at night except when (a) in the sole judgement of the Engineer, the work will be of advantage to the Owner and can be performed satisfactorily at night, (b) the work will be done by a crew organized for regular and continuous night work, and (c) the Engineer has given written permission for such night work.

**SECTION 9.00
MEASUREMENT AND PAYMENT****SUBSECTION 9.04 PARTIAL PAYMENTS**

Replace all references to "biweekly" with "monthly".

Replace the second paragraph of this subsection with the following:

There will be a retainage of ten (10%) percent for all planting items. For all other items of work there will be a retainage of five (5%) percent of the value of said items.

SUBSECTION 9.05 FINAL ACCEPTANCE AND FINAL PAYMENT

Replace this entire subsection with the following:

Fixing of the date of completion and acceptance of the work or a specified part thereof shall only be effective when accomplished by a writing specifically so stating and signed by the Owner.

A. Partial Acceptance and Payment

At any time, the Owner may issue a written order to the Contractor declaring that he intends to utilize a specified portion of the work which in his opinion has been sufficiently completed in accordance with the Contract. A tentative list of items remaining to be completed or corrected shall be included with this order.

Within 45 days after acceptance under this subsection, the Engineer shall make an estimate in writing of the amount and value of the part of the work so accepted. The Owner shall pay said amount to the Contractor after deducting therefrom all previous payments, all charges against the Contractor as provided for hereunder, and all amounts to be retained under the provisions of the Contract, said payment to be made at the time of the next monthly progress estimate.

Acceptance by the Owner under this subsection shall not relieve the Contractor of any obligations under the Contract except to the extent agreed upon in writing between the Owner and the Contractor. The Owner shall have the right to exclude the Contractor from any part of the work which has been accepted, but the Owner shall allow the Contractor reasonable access thereto to complete or correct items on the tentative list.

B. Final Acceptance and Payment

The Owner shall pay to the Contractor the entire amount found by the Engineer to be earned and due hereunder after deducting there from all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the Contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment. Except as in this subsection otherwise provided, such payment shall be made no later than 15 days after but in no event before the expiration of the time within which claims for labor performed or materials or equipment furnished must be filed under the applicable lien law, or, if such time is not specified by law, the expiration of 30 days after the completion of the Engineer's final estimate.

If within six months from the date the final estimate is forwarded to the Contractor, the Contractor has not filed a valid (as by the Engineer) written reasons(s) for not accepting the final estimate, the final estimate will be considered acceptable to the Contractor and payment of the final estimate made. The acceptance by the Contractor of the final payment shall operate as and shall be a release to the Party of the First Part and every member, agent and employee thereof, from all claims by the Contractor for anything done or furnished for, or relating to the work or for any act or neglect of the Party of the First Part or of any person relating to or affecting the work, except the claim against the Party of the First Part for the remainder if any there be, of the amounts kept or retained as provided in Subsection 7.15.

**DIVISION II
CONSTRUCTION DETAILS****SECTION 101
CLEARING AND GRUBBING****DESCRIPTION****SUBSECTION 101.20 GENERAL**

Add the following at the end of this subsection:

The work shall also include arborist services and tree protection measures including armoring, pruning, air excavation, root pruning, and tree and plant protection fence.

CONSTRUCTION METHODS**SUBSECTION 101.61 CLEARING AND GRUBBING**

Add the following at the end of this subsection:

The Contractor may use any equipment, materials or labor as he deems necessary, with no additional measurement or payment to be made.

Add the following new subsection:

SUBSECTION 101.64: TREE PROTECTION - ARMORING & PRUNING

Tree protection including armoring and pruning shall conform to the relevant provisions of Sections 771 and shall be for furnishing and installing temporary tree trunk protection and for limb pruning to prevent injury to the tree from construction equipment and activities.

Trunk armoring is for instances where construction activity (the use of heavy equipment) comes close enough to potentially damage the tree trunk or limbs. It is to be used where shown on the plans and as directed by the Engineer.

A. References.

If requested, the Contractor shall provide to the Engineer one copy of the latest edition of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance: Part 1-Pruning and Part 5-Construction Management Standard. Provision of reference shall be incidental to this item.

B. Materials.

Trunk armoring shall be such that it prevents damage to the trunk from construction equipment. Selected material shall be such that installation and removal will not damage the trunk.

Acceptable materials include 2x4 wood cladding with wire or metal strapping, or, for instances when duration of construction activities is less than three months, corrugated plastic pipe mounted with duct tape. Height of cladding shall be from base of tree (including root flare) to the bottom of the first branch or as recommended by the Arborist. Material and methods shall be approved by the Engineer.

Other materials or methods may be acceptable if approved by the Engineer or an Arborist.

C. Methods of Work.

Prior to construction activities, the Engineer, the Contractor, the Town Tree Warden, and the Arborist, if specified, shall review trees within and adjacent to the project limits. Final decision as to trees armored and/or pruned shall be per the Engineer.

Care shall be taken to avoid damage to the bark during installation and removal of armoring. Trunk armoring shall be replaced and maintained such that it is effective for as long as required and shall be removed immediately upon completion of work activities adjacent to trees.

Pruning of limbs shall conform to the techniques and standards of the most recent ANSI A300 standards.

D. Damages & Penalties.

In the event that trees designated for protection under this item are damaged, including root damage from unapproved trespassing onto the root zone, the Contractor shall, at his/her own expense obtain an Arborist.

If, based on the recommendations of the Arborist, the Engineer determines that damages can be remedied by corrective measures, such as repairing trunk or limb injury, soil compaction remediation, pruning, and/or watering, the damage will be repaired as soon as possible within the appropriate season for such work and according to industry standards.

If the Engineer determines that damages are irreparable, the Contractor shall pay for the damages in the amount of \$500.00 per diameter inch at breast height (DBH) per tree.

Additionally, if the Engineer determines that the damages are such that the tree is sufficiently compromised as to pose a future safety hazard, the tree shall be removed. Tree removal will include clean up of all wood parts, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil.

Add the following new subsection:

SUBSECTION 101.65: AIR EXCAVATION AND ROOT PRUNING

Air Excavation and Root Pruning is for the services of excavating soil with an air pressure tool in order to expose tree roots, and for associated services and materials necessary to complete the work of pruning, backfilling with existing soil, watering, mulching, and fertilizing. This item shall include the furnishing and operating the air excavating tool.

The Contractor shall obtain recommendations from a certified arborist as to which trees shall be included for air excavation and root pruning. All references to Arborist herein shall refer to the Arborist under Item 102.55 Arborist. Arborist shall meet the requirements as specified under that Item and shall be compensated under that Item.

Trees to be air spaded shall be those shown on the plans and/or as determined necessary by the Engineer per the recommendations of the Arborist.

A. References.

The standards from American National Standards Institute (ANSI): A300 (Part 8)-2013 Root Management with special attention to Section 84 shall apply to this work. If requested, the Contractor shall provide to the Engineer one copy of this reference. Provision of reference shall be incidental to this item.

B. Methods.

Air excavation and pruning work shall be performed by or overseen by the Arborist.

Air excavation of soil and root pruning shall occur any time prior to equipment work within the root zone of marked trees.

Air excavation shall be done along the limit of proposed excavation. Trench shall be of sufficient width to observe and cut roots and shall be to the depth of proposed excavation. Immediately following air excavation, roots shall be pruned.

Following pruning, roots shall immediately be fully covered with backfill and immediately watered. Roots shall continue to be watered and fertilized as directed by the Arborist.

Add the following new subsection:

SUBSECTION 101.66: TREE AND PLANT PROTECTION FENCE

Tree and Plant Protection Fence shall conform to the relevant provisions of Sections 644 and 771 of the Standard Specifications and the following:

Work under this item consists of furnishing, installing, removing and resetting, and maintaining fence in a vertical and effective position at all times, and final removal of temporary fence.

The purpose of the fence is to prevent damage to tree roots, tree trunks, soil, and all other vegetation within a delineated Tree and Plant Protection Zone (TPPZ) as shown on the plans, as directed by the Engineer, and as described herein.

Protection shall be for the duration of the construction activities unless otherwise directed.

A. Materials.

Temporary Fence shall be such that it provides a minimum 48-inch tall barrier that remains vertical and effective (not sagging) for the duration of period required. Fence shall be plastic orange safety fence (recommended where high visibility is necessary), wooden snow fencing, or other approved material.

Per the Arborist or Engineer, additional posts, deeper post depths, and/or additional attachments will be used if the fabric or fence sags, leans or otherwise shows signs of failing to create a sufficient barrier to access.

B. References.

If requested, the Contractor shall provide to the Engineer one copy of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1, Pruning and Part 5, Construction Management Standard. Provision of reference shall be incidental to this item.

C. Establishment of TPPZ.

Fencing shall be used for construction areas, staging areas, and stockpile areas as shown on the plans and as directed by the Engineer to establish the Tree and Plant Protection Zone (TPPZ).

Fence shall be located as close to the work zone limit and as far from the trunk as possible to maximize the area to be protected. Fence shall run parallel and adjacent to construction activity to create a barrier between the work zone and the root zone or designated limit of plants and soils to be protected.

When construction activities surround (or have the potential to surround) trees or plants to be protected, a circular enclosure shall be used. In these instances, the TPPZ limit shall be the Drip Line of each tree or as close as possible to the Drip Line, and as shown on the plans and details. The Drip Line is defined as the limit of tree canopy.

The Contractor shall not engage in any construction activity within the TPPZ without the approval of the Engineer, including: operating, moving or storing equipment; storing supplies or materials; locating temporary

facilities including trailers or portable toilets; and shall not permit employees to traverse the area to access adjacent areas of the project or use the area for lunch or any other work breaks.

D. Method of Work.

Fence shall be installed prior to any construction work or staging activities and shall be installed and maintained in a vertical and effective position at all times.

Fence shall be repositioned where and as necessary for optimum effectiveness. Repositioning shall be incidental to this item. Fence shall not be moved without prior approval by the Engineer.

The TPPZ shall be protected at all times from compaction of the soil; damage of any kind to trunks, bark, branches, leaves, and roots of all plants; and contamination of the soil with construction materials, debris, silt, fuels, oils, and any chemicals substance. In the event of spills, compaction or damage, the Contractor shall take corrective action immediately using methods approved by the Engineer in coordination with an Arborist.

After construction activities are completed, or when directed by the Engineer, fence, stakes, and other materials shall be removed and disposed off-site by the Contractor.

E. Required Work Within the TPPZ.

In the event that grading, trenching, utility work, or storage is unavoidable within the TPPZ, the Engineer shall be notified. Measures may be required for tree protection and preservations, including air spading, the use of six-inch depth of wood chips or approved matting for root protection, pruning of branches, and/or trunk protection. These protection measures will be paid under applicable items.

Landscaping work specified within the TPPZ shall be accomplished by hand tools. Where hand work is not feasible, with permission of the Engineer, work shall be conducted with the smallest mechanized equipment necessary.

F. Tree and Plant Damages or Loss.

If the TPPZ is intruded upon, at the discretion of the Engineer, the Contractor will be required to provide a more durable barrier (e.g., Jersey Barriers) to secure the area. Cost of furnishing and installing additional or more durable barrier shall be borne by the Contractor.

If the Contractor intrudes into a TPPZ without approval, soil will be considered compacted and tree root damage will be assumed. Action will be taken as specified below.

In the event that trees designated for protection under this item are damaged, including root damage from unapproved trespassing onto the root zone, the Contractor shall, at his own expense obtain an Arborist.

If, based on the recommendations of the Arborist, the Engineer determines that damages can be remedied by corrective measures, such as repairing trunk or limb injury, soil compaction remediation, pruning, and/or watering, the damage will be repaired as soon as possible within the appropriate season for such work and according to industry standards.

If the Engineer determines that damages are irreparable, the Contractor shall pay for the damages in the amount of \$500.00 per diameter inch at breast height (DBH) per tree.

Additionally, if the Engineer determines that the damages are such that the tree is sufficiently compromised as to pose a future safety hazard, the tree shall be removed. Tree removal will include clean up of all wood parts, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil.

Shrubs will be replaced with a plant of similar species and equal size or the largest size plants reasonably available. The Engineer will approve the size and quality of the replacement plant. Replacement will include a minimum of one year of watering and care.

Add the following new subsection:

SUBSECTION 101.67: ARBORIST

The work under the Arborist Item is for the services of an International Society of Arboriculture (ISA) or Massachusetts Certified Arborist. The Arborist shall have at least 10 years of experience in tree care, including tree protection during construction.

The Arborist's general responsibilities include protecting high priority trees within and adjacent to the project limits, staging areas, and access routes; recommending removal of diseased, damaged or otherwise unhealthy trees that pose a potential safety hazard; evaluating effects of construction on future health of trees close to proposed work; and recommending and/or overseeing tree work and care.

For projects with multiple phases, projects where construction activities (work or stockpiling) shifts, or when otherwise directed by the Engineer, the Arborist shall re-evaluate conditions and provide follow-up recommendations.

A. Submittals.

1. Contractor shall submit to the Engineer for approval by the Town of Lexington the qualifications and experience of the Arborist. Submittal shall include a copy of current certification, resume, and summary of a minimum of five relevant projects.
2. Arborist's Report documenting recommendations shall be submitted to the Engineer and an electronic copy forwarded to the Town of Lexington. Report shall include the following:

B. Scope of Work.

The Arborist shall be responsible for the following tasks:

1. Initial Evaluation and Report
 - a. review and modify, if necessary, tree protection measures shown on the drawings
 - b. review and mark limits of protective fencing for trees and groups of trees to be retained;
 - c. review and recommend protection measures for high priority trees;
 - d. submit a marked-up Construction Plan that briefly notes recommendations and decisions made in the field;
 - e. submit a corresponding report including photo documentation;
 - f. visual inspection of tree health for trees to remain
2. Oversight
 - a. direct or execute pruning of branches and/or roots, air spading, and/or other tree care operations
3. Monitoring and Inspections
 - a. periodically inspect fencing and ensure root zones are properly protected and clear of equipment and materials as required by the Engineer
 - b. reevaluate tree protection measures for various phases of a project
 - c. submit inspection notes with relevant and dated photos to the Engineer.
4. Special Care
 - a. oversee tree pruning for health and aesthetics
 - b. recommend fertilization and amendments
 - c. recommend and oversee pest control

C. Methods.

Prior to any work, the Arborist shall walk the site with the Contractor, the Engineer, and the Town Tree Warden, to review trees, limits of construction activities, and other concerns. Where required for proper assessment

of tree impacts, limits of work shall be staked or otherwise marked in the field prior to the site walk.

Trees to be removed shall be painted or otherwise marked.

Trees to be retained shall be marked such that it does not mar or damage the tree and such that marker is not easily removed. As applicable to the work and scope of the project, trees designated for removal or to be retained shall be noted on the plan and/or in the arborist's report and photographed.

Trees designated to remain that are damaged or removed by construction activities shall be noted and photographed for inclusion in inspection reports submitted to the Engineer.

COMPENSATION

SUBSECTION 101.81 BASIS OF PAYMENT

Add the following after this first sentence of this subsection.

All labor, material and equipment required to perform Clearing and Grubbing shall be considered incidental to the bid item, with no additional measurement or payment to be made.

Add the following after the last sentence of this subsection.

Tree Protection - Armoring and Pruning shall be measured and paid at the contract unit price per each. This will include full compensation for all labor, equipment, materials, and incidentals for the satisfactory completion of the work and the subsequent removal and satisfactory disposal of the protective materials upon completion of the contract. In the event of tree damage, cost of Arborist services, of remediation measures, and/or tree removal will be borne by the Contractor. Payment under this item will be scheduled throughout the length of contract:

40% of value shall be paid upon installation of trunk armoring and completion of pruning work, if required. 60% shall be paid at the end of construction operations that would damage the tree and after protection materials have been removed and properly disposed of by the Contractor. In the event of repairable damages, payment shall be made after the completion of remediation measures.

In the event of irreparable damage due to lack of proper protective measures being take there will be no compensation in addition to the \$500.00 per diameter inch penalty.

Air Excavation and Root Pruning shall be measured and paid per foot where air spading, pruning, watering, and fertilizing are performed. This item will include full compensation for all labor, equipment, materials, and incidentals required for the satisfactory completion of the work. Arborist services shall be per Item 102.55 Arborist and compensated under that Item.

Tree and Plant Protection Fence shall be measured and paid for payment by the foot of Tree and Plant Protection Fence, complete in place. This includes all labor, materials, equipment, maintenance, final removal and disposal of the protective materials, damages repair, and all incidental cost required to complete the work. Payment of 40 percent of value will be made upon installation of Fence. The remaining 60 percent will be made when protection materials have been removed and disposed off-site. No separate payment will be made for costs of remedial actions, including addition of more durable barriers, or arborist services, but all costs in connection therewith shall be included in the Contract unit price bid. In the event of irreparable damage due to lack of proper protective measures being take there will be no compensation in addition to the \$500.00 per diameter inch penalty.

Arborist shall be measured for payment by the Hour of time spent onsite. Arborist shall be paid at the contract unit price per hour upon submittal and acceptance of Reports described in Subsection 101.67.

SUBSECTION 101.82: PAYMENT ITEMS*Add the following payment items in numerical order:*

102.511	Tree Protection - Armoring and Pruning	Each
102.513	Air Excavation and Root Pruning	Foot
102.521	Tree and Plant Protection Fence	Foot
102.55	Arborist	Hour

**SECTION 120
EXCAVATION****DESCRIPTION****SUBSECTION 120.20 GENERAL***Add the words "Removal and Disposal of surplus road base" after the words "Unclassified Excavation" in the last sentence of the first paragraph.**Add the following at the end of this subsection:*

All locations to be excavated shall be stripped of topsoil prior to excavation. This work shall be paid at the unit price for topsoil excavated and stacked.

The contractor will be responsible for obtaining all the necessary permits and for finding a proper area to dispose of surplus material.

Any Petramat or other fabric material that is encountered during cold planer operations and not thoroughly bonded to the existing asphalt shall be removed by the contractor prior to proceeding with resurfacing.

*Add the following new subsection:***SUBSECTION 120.27 REMOVAL AND DISPOSAL OF SURPLUS ROAD BASE**

This work shall include the excavation of excess reclaimed road base as directed by the engineer. All surplus material resulting from reclamation and not needed for use on the project, as determined by the Engineer, shall be disposed of by the contractor outside and away from the limits of the project, with no additional measurement or payment.

*Add the following new subsection:***SUBSECTION 120.28 EXCAVATION FOR PATCHING**

This work shall include the excavation of existing pavement and /or sub-base as well as any boulders or rock below the sub-base as necessary. The work shall also include the grading and compaction of sub-base to the required cross section as shown on the plans or as directed by the Engineer. All surplus material resulting from excavation and not needed for use on the project, as determined by the Engineer, shall be disposed of by the contractor outside and away from the limits of the project, with no additional measurement or payment.

*Add the following new subsection:***SUBSECTION 120.29 EXCAVATION FOR ROAD WIDENING AND RELOCATION**

This work shall include all excavation along the edge of the existing roadway for the purpose of road widening and/or relocation. Said work shall be performed in a manner as to protect any and all existing utilities and landscape material from damage.

Add the following new subsection:

SUBSECTION 120.30 SAWCUTTING

This work shall include the full depth cutting of the existing pavement, which may include sawcutting for granite curb, driveways, reclaim end treatment, drainage and roadway patching unless otherwise noted in such items as inclusive. Sawcutting shall be complete to the existing sub-base by a motorized saw along lines as shown on the plans or as directed by the Engineer.

CONSTRUCTION METHODS**SUBSECTION 120.60 GENERAL**

Add the following at the end of this subsection:

D. Care when excavating for sidewalks

The Contractor shall take all necessary precautions to prevent damage to walls, building foundations, and fences abutting sidewalks and driveways designated for replacement. Where required, new sidewalks shall meet said walls and fences. Prior to sidewalk removal, a sawcut shall be provided in all sidewalks to be removed a distance, to be determined by the Town of Lexington Department of Public Works (6 inches minimum) from the face of adjacent buildings, retaining walls, and fences. The final 6 inches (minimum) of sidewalk will be removed with caution under the resident Town of Lexington Department of Public Works' supervision. There will be no additional payment for labor or equipment necessary to meet this "remove with caution" requirement. The Contractor is responsible for damage to walls, foundations and fences due to his construction activities and shall be repaired at the Contractor's own cost. Any brick, paver, or stamped concrete/asphalt sidewalk, crosswalk, or roadway disturbed by construction activity shall be repaired by the Contractor at no additional cost. Any brick, paver, or stamped concrete/ asphalt sidewalk, crosswalk, or roadway damaged or to be restored shall match the same materials that exist, including concrete base if appropriate, unless otherwise indicated on the plans, or directed by the Engineer.

When practical sawcuts shall be made at existing control joints.

SUBSECTION 120.65 TOPSOIL EXCAVATED AND STACKED

Add the following at the end of this subsection:

The Contractor will restore any areas used or damaged in the stockpiling operation at his own expense.

Add the following new subsection:

SUBSECTION 120.68 REMOVAL AND DISPOSAL OF SURPLUS ROAD BASE

This work shall include the excavation, removal and satisfactory disposal, in accordance with relevant provisions of Section 120.60 of all materials listed under Section 120.27 as directed by the engineer.

COMPENSATION**SUBSECTION 120.80 METHOD OF MEASUREMENT**

Add the following at the end of this subsection:

Sawcutting will be measured by the linear foot to the limits as shown on the plans or as directed by the Engineer.

Any rock or boulders that must be excavated and measure less than one cubic yard in volume shall be considered incidental to the excavation work with no additional measurement of payment to be made. Any rock or boulders that

must be excavated and measure one cubic yard or greater in volume shall be considered Class A Rock and shall be measured in accordance with the pay limits as described above.

The work to relocate decorative boulders shall be included under Item 120.1 Unclassified Excavation.

SUBSECTION 120.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

Sawcutting will be paid at the contract unit price per linear foot of payment cut.

SUBSECTION 120.82 PAYMENT ITEMS

Add the following payment items in numerical order:

ITEM 120.11	Excavation for Patching	Cubic Yard
ITEM 120.12	Excavation for Road Widening and Relocation	Cubic Yard
ITEM 120.13	Removal and Disposal of surplus road base (from reclaim operations)	Cubic Yard
ITEM 125.	Topsoil Excavated and Stacked	Cubic Yard
ITEM 482.3	Sawcutting	Linear Foot

Insert the following new section in numerical order:

**SECTION 130
STREET SWEEPING****DESCRIPTION****SUBSECTION 130.20 GENERAL**

Street sweeping shall be by mechanical street sweeper vehicle to clear the paved surface of all debris, to the extent as determined by the Engineer.

CONSTRUCTION METHODS**SUBSECTION 130.60 GENERAL**

The timing of the street sweeping operation should be such that the road remains sufficiently clean between the completion of the sweeping and the start of any reclamation and/or repaving. Should the Engineer decide that the road surface requires additional sweeping, no additional compensation shall be offered the Contractor to complete this process.

No additional compensation will be allowed when street sweeping operations are used as a means of clearing off and/or exposing areas of pavement covered with vegetation or debris.

COMPENSATION**SUBSECTION 130.80 METHOD OF MEASUREMENT**

Measurement shall be made by the hour, with a minimum of four hours measured per each day of use unless otherwise noted in such items as inclusive.

SUBSECTION 130.81 BASIS OF PAYMENT

Street sweeping will be paid at the contract unit price per hour, with a four-hour minimum per day unless otherwise noted in such items as inclusive.

When sweeping is performed in preparation for paving operations then it shall be inclusive to the paving items.

SUBSECTION 130.82 PAYMENT ITEMS

ITEM 130.	Street Sweeping	Hour
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**SECTION 150
EMBANKMENT****CONSTRUCTION METHODS****SUBSECTION 150.64 BACKFILLING FOR STRUCTURES AND PIPES****A. General.**

Revise the 2nd sentence of this subsection to read as follows:

When suitable backfill material cannot be obtained from excavation, gravel borrow shall be used.

COMPENSATION**SUBSECTION 150.80 METHOD OF MEASUREMENT**

Add the following after the 9th paragraph of this section:

Crushed Stone (3/4") when used for pipe bedding shall be included in the item price for the associated pipe, with no separate measurement or payment.

Insert the following new section in numerical order:

**SECTION 153
CONTROLLED DENSITY FILL****DESCRIPTION****SUBSECTION 150.20 GENERAL**

Excavatable Controlled Density Fill (CDF) shall be used as backfill material in utility trenches, abandoned structures and other locations as determined by the Engineer, unless shown otherwise on the plans.

MATERIALS**SUBSECTION 150.40 GENERAL**

Materials shall meet the requirements specified in the following subsection of Division III, Materials:

Controlled Density Fill, Type 2E	M4.08.0
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CONSTRUCTION METHODS

SUBSECTION 150.60 GENERAL

Controlled Density Fill shall be placed in a manner such that no damage will occur to utility lines, pipes or structures. The material shall be placed so that no voids are left upon completion of the backfilling process.

Steel road plates shall protect the CDF until the fill reaches a point that it will not be deformed by traffic passing over it. Per direction of the engineer, CDF may be left one foot below bottom of asphalt with remaining backfill material placed after appropriate curing time as directed by the engineer. Additional backfill will be paid at contract unit price for the material used as directed.

COMPENSATION

SUBSECTION 150.80 METHOD OF MEASUREMENT

Controlled Density Fill shall be measured in place by the cubic yard.

SUBSECTION 150.81 BASIS OF PAYMENT

Payment for Controlled Density Fill will be paid for at the contract unit price per cubic yard. No additional compensation shall be offered for material placed beyond the limits of excavation as shown in the plans or as determined by the Engineer.

Additional backfill will be paid at contract unit price for the material used as directed.

SUBSECTION 150.82 PAYMENT ITEMS

ITEM 153.	Controlled Density Fill - Excavatable	Cubic Yard
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SECTION 201 BASINS, MANHOLES AND INLETS

MATERIALS

SUBSECTION 201.40 GENERAL

Add the following at the end of this subsection:

Clay brick conforming to Section M4.05.2 of the Standard Specifications shall be used to adjust all manholes and catch basin frames and grates or covers to grade. For sewer manholes, Grade SS bricks shall be used for sewer inverts and shelves. Grade MS bricks shall be used for other locations.

Castings shall be as follows, or as directed by the Engineer:

- All Manhole Cover Frames shall be as manufactured by EJ a.k.a. East Jordon Iron Works meeting the following: EJIW product #00211111 (0MA211000038, 8 inch depth) Upon approval of the engineer 6-inch frames may be utilized in defined locations and shall meet the following EJIW product #00226611 (0MA226000002, 6 inch depth)
- Drain Manhole Covers shall be EJIW 0MA211000041 or approved equal
(The word DRAIN in 2-inch, flat face, gothic letters shall be cast into the cover)
- Sewer Manhole Covers shall be EJIW 0MA211000040 or approved equal

(The word SEWER in 2-inch, flat face, gothic letters shall be cast into the cover)

- Catch Basin Frames with 3 flanged sides shall be EJIW product #00554813 (0MA55400005, 8-inch deep) or approved equal. Upon approval of the engineer 6-inch frames may be utilized in defined locations and shall meet the following 0MA55400003, 6 inch depth.
- Catch Basin Frames with 4 flanged sides shall be EJIW product #00554811 (0MA55400006, 8-inch deep) or approved equal. Upon approval of the engineer 6-inch frames may be utilized in defined locations and shall meet the following 0MA55400004, 4 inch depth.
- Double Catch Basin Frames with 3 flanged sides shall be EJIW product #00554814 (0MA54400001, 8-inch deep) or approved equal. Upon approval of the engineer 4-inch frames may be utilized in defined locations and shall meet the following 0MA544400106, 4 inch depth.
- Double Catch Basin Frames with 4 flanged sides shall be EJIW product #00554812 (0MA54400002, 8-inch deep) or approved equal. Upon approval of the engineer 4-inch frames may be utilized in defined locations and shall meet the following 0MA544400012, 4 inch depth.
- Catch Basin Grates shall be EJIW product #0055284 (0MA552000076) or approved equal for Cascade Left or product #0055285 (0MA552000077) or approved equal for Cascade Right (The words DUMP NO WASTE in 1/2-inch, letters shall be engraved into the edge of grate along one side)
- Catch Basin Frame and Cover – “D-type” shall be EJ product #00750111 (9” Tall Curb Inlet Frame for Behind the Curb use) or approved equal.

All exterior surfaces of manhole brickwork shall be plastered with cement mortar.

Leaching basins shall be precast concrete structures as approved by the Engineer.

CONSTRUCTION METHODS

SUBSECTION 201.60 GENERAL

Add the following at the end of this subsection:

Catch basins may be required to be built on (connected to) existing lines. Work may include, but is not limited to, excavation around existing pipe, removal/trimming existing pipe to inside face of catch basin, building new catch basin around existing pipes (including base and 4' sump), and backfilling/compacting around catch basin.

The limits of the excavation shall be sawcut or milled full depth through all existing pavement prior to any excavation for structure placement.

SUBSECTION 201.63 PLACING CASTINGS

Delete the following sentence

‘Cement Concrete collars shall be placed around the castings after the final setting as shown on the plans and as directed’

Replace with the following sentence

‘Asphalt Concrete collars shall be placed around the castings after the final setting as shown on the plans and as directed’

Add the following at the end of this subsection:

All three-flanged rectangular frames shall be placed as described above. The side of the casting without a flange shall be filled in with bricks and mortar or steel plates sufficient to cover any opening in the structure or as directed by

the Engineer. Said work shall be considered incidental to Item 220, Drainage Structure Adjusted with no additional measurement or payment to be made.

SUBSECTION 201.65 LAYING BRICKS AND BLOCKS

Add the following at the end of this subsection:

A minimum of 2 courses of brick shall be used to set frames on all manholes, catch basin and leaching basins.

Add the following new subsection:

SUBSECTION 201.66 LEACHING BASINS

Leaching basins shall be surrounded by 1 foot of crushed stone. Filter fabric shall line the entire excavation for the leaching basin up to the existing surface as detailed on the plans.

COMPENSATION**SUBSECTION 201.80 METHOD OF MEASUREMENT**

Replace the first two paragraphs of this section with the following:

Measurement for catch basins, leaching basins, manholes and drop inlets shall be measured as complete units regardless of depth.

All cement blocks, filter fabric and stone associated with the construction of leaching basins shall be considered incidental to the cost of the leaching basin with no additional measurement or payment.

Sawcutting or milling of existing pavement to the excavation limits for structure placement shall be considered incidental to the cost of associated items, with no additional measurement or payment.

SUBSECTION 201.81 BASIS OF PAYMENT

Delete the following sentence

‘Payment for the concrete collars shall be included in the contract unit price of the structure involved’

Replace with the following sentence

‘Payment for the asphalt collars shall be included in the contract unit price of the structure involved’

Add the following at the end of this subsection:

All costs associated with construction of catch basins saddling existing drainage lines shall be included in the unit price per catch basin.

**SECTION 220
ADJUSTMENT, REBUILDING AND REMODELING OF DRAINAGE STRUCTURES****CONSTRUCTION METHODS****SUBSECTION 220.20 GENERAL**

Add the following to the end of this subsection:

Work shall also include furnishing and installing municipal standard frames and grates (or covers) in accordance with Subsection 201.40, and removing and stacking existing frames and grates (or covers)

SUBSECTION 220.60 GENERAL

Add the following at the end of this subsection:

Lowering and plating of Catch Basins, Manholes, Water and Gas gates shall follow the detail described in section 403. Municipal standard frames and grates (or covers) shall be in accordance with Subsection 201.40. Existing frames and grates (or covers) designated to be removed and stacked shall be delivered to the Lexington Public Works Department.

COMPENSATION

SUBSECTION 220.80 METHOD OF MEASUREMENT

Add the following to the end of this subsection:

Catch Basins and/or manholes lowered and plated as described in section 403 will be measured in place by the unit each, complete and approved.

Water gates and gas gates lowered and plated as described in section 403 will be measured in place by the unit each, complete and approved.

Municipal standard frames and grates (or covers) will be measured by each unit of frame and grate (or cover) furnished and installed.

Frames and grates (or covers) to be removed and stacked will be measured by each unit of frame and grate (or cover) removed and stacked.

SUBSECTION 220.81 BASIS OF PAYMENT

Revise 6th sentence to read as follows:

Catch Basins and/or manholes lowered and plated as described in section 403 will be paid for at the contract unit price each.

Water gates and gas gates lowered and plated as described in section 403 will be paid for at the contract unit price each.

Municipal standard frames and grates (or covers) will be paid for at the contract unit price each.

Frames and grates (or covers) to be removed and stacked will be paid for at the contract unit price each.

SUBSECTION 220.82 PAYMENT ITEMS

Add the following payment items in numerical order:

ITEM 220.1	Catch Basins and/or manholes lowered and plated	Each
ITEM 220.15	Water gates and gas gates lowered and plated	Each
ITEM 222.3	Frame and Grate (Or Cover) Municipal Standard	Each
ITEM 222.5	Frame and Cover - "D-Type"	Each
ITEM 223.1	Frame and Grate (Or Cover) Removed and Stacked	Each

SECTION 230 CULVERTS, STORM DRAINS AND SEWER PIPES

CONSTRUCTION METHODS

SUBSECTION 230.60 GENERAL

Add the following at the end of this subsection:

For all pipes, including services, the limits of the trench shall be sawcut or milled full depth through all existing pavements prior to any excavation for pipe placement.

Add the following new subsection:

SUBSECTION 230.66 UTILITY WARNING AND IDENTIFICATION TAPE

Buried Utility Warning and Identification Tape shall be placed at locations as directed by the Engineer. Said warning tape shall be made of plastic backed aluminum foil tape or detectable magnetic plastic tape with a minimum width of 3 inches. It shall be color coded and labeled continually along entire length of the tape in bold black letters for the appropriate utility, and detectable by an electronic detection instrument. The markings on the tape should be permanent and unaffected by moisture or light.

Buried Utility Warning and Identification Tape shall be considered incidental to the work being done and no additional compensation will be offered for this item.

COMPENSATION**SUBSECTION 230.80 METHOD OF MEASUREMENT**

Add the following at the end of this subsection:

The placement of pipe bedding shall be considered incidental to the placement of associated pipe, with no separate measurement or payment.

Sawcutting or milling of existing pavement to the excavation limits for pipe placement shall be considered incidental to the cost of associated items, with no additional measurement or payment.

SUBSECTION 230.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

Backfill to replace material removed under Class B Trench Excavation for sewer pipe shall be $\frac{3}{4}$ " crushed stone for drainage as specified in Section 150.

SUBSECTION 230.82 PAYMENT ITEMS

Add the following payment items in numerical order:

ITEM 252.121	12 Inch Corrugated Plastic (Polyethylene) Pipe Flared End	Each
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**SECTION 270
PIPES REMOVED AND RELAID OR STACKED**

Change the title of this Section to read:

**SECTION 270
PIPES REMOVED AND RELAID, STACKED OR DISPOSED****DESCRIPTION****SUBSECTION 270.20 GENERAL**

Insert the word "disposing," after the word "relaying,"

CONSTRUCTION METHODS*Add the following new Subsection:***SUBSECTION 270.65 DISPOSING**

All pipe removed shall be disposed of by the contractor outside and away from the limits of the project, with no additional measurement or payment.

COMPENSATION**SUBSECTION 270.80 METHOD OF MEASUREMENT***Add the following at the end of this subsection:*

Pipes removed and disposed, as directed, will be measured as the actual length of pipe removed.

SUBSECTION 270.81 BASIS OF PAYMENT*Add the following at the end of this subsection:*

Pipes removed and disposed will be paid for at the contract unit price per linear foot of pipe required to be removed and disposed.

SUBSECTION 270.82 PAYMENT ITEMS*Add the following payment items in numerical order:*

ITEM 272.	Pipe Removed and Disposed	Linear Foot
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**SECTION 301
WATER SYSTEMS****DESCRIPTION****SUBSECTION 301.22 PROTECTION OF UNDERGROUND STRUCTURES***Replace this entire subsection with the following:*

The Contractor shall take every precaution to protect all conduits, pipe or structures uncovered during excavation. In the event that a pipe or structure that has been unmarked or is mistakenly marked in the field or on the plans is damaged by the Contractor, an allowance shall be made by the Town for compensation to the Contractor for the cost to repair the damage. No compensation shall be made for pipes or structures that are damaged that have been correctly marked out in the field or on the plans.

CONSTRUCTION METHODS**SUBSECTION 301.60, PART F. REMOVAL OF CASTINGS***Insert the word "disposed," after the word "reset,"**Add this new subsection:***SUBSECTION 301.61 GAS GATES**

It shall be the sole responsibility of the Contractor to coordinate with National Grid to have any and all gas gates adjusted to the proper grades or as directed by the Engineer. Unless otherwise directed by National Grid, it shall be the responsibility of National Grid to adjust said gates. In the case that an agreement is made with National Grid for the contractor to adjust the gas gates then compensation will be made to the contractor by the town under item 358.

Add this new subsection:

SUBSECTION 301.62 HYDRANT ADJUSTED

All hydrants designated to be adjusted shall be done so one hydrant at a time. The Contractor shall have all the necessary tools, materials, equipment, and workmen needed to the work on site and ready before any hydrant is adjusted. The Contractor shall give at least 48 hours written notice to the Town of Lexington Water Department prior to working on any hydrant. Hydrants which will be out of service for more than 24 hours shall be replaced by temporary hydrants at the Contractors own expense.

Hydrants to be adjusted shall be carefully removed and set on a block temporarily. The Contractor shall install a riser extension of the appropriate length on the existing riser and reset the hydrant. Extension sections used to adjust hydrants shall be ductile iron only and shall adapt readily to the existing hydrant and fittings. The final height of the breakable flange shall be between 2" and 4" above finished grade. Hydrants shall be set plumb with the steamer nozzle facing the roadway.

COMPENSATION**SUBSECTION 301.80 METHOD OF MEASUREMENT**

Add the following at the end of this subsection:

Measurement of water and gas gate boxes adjusted shall include all risers as necessary, up to a length of 12 inches.

Allowances shall be made for compensation to the Contractor for water mains, gates or services that are broken or disrupted during excavation within the trench limits as defined in the construction plans that have either been unmarked in the field or are located at a minimum of five (5) feet parallel to either the left or right of the water main, gate or service marking as laid out in the field. Such allowances for compensation shall be measured per each occurrence of the preceding scenario.

Water gates and gas gates lowered and plated as described in section 403 will be measured in place by the unit each, complete and approved.

Hydrants to be adjusted will be measured in place by the unit each, complete and approved.

SUBSECTION 301.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

All risers up to a length of 12 inches shall be considered incidental to the contract unit price for gate boxes adjusted, with no additional measurement or payment. If gate box needs replacement below 12" from final grade then payment will be made under item 357 for the excavation, disposal of materials, installation and proper backfilling and under item 358 for adjustment to final grade.

Allowances for compensation shall be paid per each occurrence as measured in Subsection 301.80.

Water gates and gas gates lowered and plated as described in section 403 will be paid for at the contract unit price each.

Hydrants to be adjusted will be paid for at the contract unit price per each..

SUBSECTION 301.82 PAYMENT ITEMS*Add the following payment items in numerical order:*

ITEM 220.15	Water gates and gas gates lowered and plated	Each
ITEM 359.	Gate Box Removed and Disposed	Each
ITEM 376.5	Hydrant – Adjusted	Each
ITEM 381.4	Service Box Removed and Disposed	Each
ITEM 384.3	Compensation for Unmarked or Mistakenly Damaged Water Facility	Each

**SUBSECTION 390
SPRINKLER MODIFIED****DESCRIPTION****390.20 GENERAL**

All work shall be done in accordance with the relevant sections of the MassDOT 2023 Standard Specifications.

Where a sprinkler system is encountered during the construction, they will be removed and reset at new locations or modified as directed by the Engineer. The exact locations will be determined by the Engineer in the field to the satisfaction of the property owner.

CONSTRUCTION METHODS**390.60 GENERAL**

All sprinkler heads and pipes etc. shall be removed carefully. The Contractor will be held responsible for any damage done during the removal and resetting of these items and shall replace or repair the damaged item as directed by the Engineer at his own expense.

Sprinkler heads and associated piping shall be relocated to new locations or eliminated as determined by the Engineer. All necessary piping shall be provided and installed by the Contractor.

COMPENSATION**390.80 METHOD OF MEASUREMENT**

The measurement for sprinkler system modified shall be at the contract unit price bid per Each and shall include, full compensation for one (1) sprinkler head, ten (10) feet of plastic pipe and fitting, excavation, materials, pipe, sprinkler head, regrading, labor, tools, and any incidental items to provide complete in place installation. For additional length beyond ten (10) feet of plastic pipe and fitting for any individual sprinkler head or pipe replacement the measurement shall be a ratio of the total length divided by ten feet. Additional heads and accompanying pipe shall be a separate per EACH measurement.

390.81 BASIS OF PAYMENT

Sprinklers modified shall be at the contract unit price per Each and shall include, one (1) sprinkler head, ten (10) feet of plastic pipe and fittings and any incidental items to provide complete in place installation with adjustments for payment as described in 390.80.

390.82 PAYMENT ITEM

ITEM 390.	Sprinklers Modified	EACH
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**SECTION 402
DENSE GRADED CRUSHED STONE FOR SUB-BASE****CONSTRUCTION METHODS****SUBSECTION 402.61 SPREADING AND COMPACTING**

Add the following at the end of this subsection:

The overall depth of the Gravel for Base Course layer shall be no greater than 8 inches after compaction.

COMPENSATION**SUBSECTION 402.80 METHOD OF MEASUREMENT**

Add the following at the end of this Subsection:

When quantities of Dense Graded Crushed Stone for Sub-base or Shoulder Backup are given in tons, a factor of 1.65 tons per cubic yard will be used to convert the measurement to cubic yards.

**SECTION 403
RECLAIMED BASE COURSE AND/OR SUB-BASE****DESCRIPTION****SUBSECTION 403.20 GENERAL**

Add the following at the end of this subsection:

If there are no plans provided then the maximum depth of reclaim shall be fifteen inches (15") measured from the surface of the existing asphalt down or a lesser depth as directed by the engineer.

CONSTRUCTION METHODS**SUBSECTION 403.60 GENERAL**

Add the following at the end of this subsection:

Sawcutting in conformance with Item 482 shall be done for end treatments for full road width in all reclaim areas.

COMPENSATION**SUBSECTION 403.80 METHOD OF MEASUREMENT***Delete sentence three of paragraph one and replace with:*

The lowering and plating of gates and structures shall be paid per each as described below.

Add the following at the end of this subsection:

As described above the structures that are lowered and plated for reclaimed operations and then raised to final grade will be paid under item 220.1 for the lowering and plating. Additionally they will be paid for under item 220.5 structure remodeled and finally under item 220 structure adjusted when brought to final grade.

Gates that are lowered and plated for reclaimed operations and then raised to final grade will be paid under item 220.15 for the lowering and plating. Additionally they will be paid for under item 358 gate box adjusted when brought to final grade. This will be full measurement for the lowering, plating, and raising of gates to final grade.

SUBSECTION 403.81 BASIS OF PAYMENT*Replace the second paragraph of this Subsection with the following:*

The lowering and plating of castings will be paid separately under item 220.1 Catch Basins and/or Manholes lowered and plated and item 220.15 Water gates and Gas gates lowered and plated. The lowering and plating of the gas gates will be paid per each to the contractor both if they perform the work and if they coordinate the performance of the work through the respective utility company.

Replace the third paragraph of this Subsection with the following:

Removal and disposal of unsuitable material, surplus reclaimed material, or any sub-base/subgrade material necessary for grade changes shall be paid for at the contract unit price per cubic yard for Item 120.13, Unclassified Excavation of Excess Reclaimed Material.

Sawcutting for reclaim end treatment shall be inclusive to the reclaim item.

SUBSECTION 403.82 PAYMENT ITEMS*Add the following payments items:*

ITEM 220.1	Catch Basins and/or manholes lowered and plated	Each
ITEM 220.15	Water gates and gas gates lowered and plated	Each

**SECTION 415
PAVEMENT MILLING****SUBSECTION 415.44 MILLING OPERATIONS***Add the following at the end of this subsection:*

Any Petramat or other fabric material that is encountered during cold planer operations and not thoroughly bonded

to the existing asphalt shall be removed and properly disposed of by the contractor prior to proceeding with resurfacing as directed by the engineer. Removal shall be performed with the use of a utility knife or other method approved in advance by the engineer.

COMPENSATION

SUBSECTION 415.80 METHOD OF MEASUREMENT

Add the following at the end of this subsection:

Any Petramat or other fabric material removed and disposed of as part of cold planer operations shall be measured by man-hours needed to perform the removal of the material on site.

SUBSECTION 415.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

Any Petramat or other fabric material removed and disposed of as part of cold planer operations shall be paid by man-hours needed to perform the removal of the material on site.

SUBSECTION 415.82 PAYMENT ITEMS

Add the following payment items in numerical order:

ITEM 415.5 Removal and disposal of fabric encountered during Cold Planing	Man Hours
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Insert the following new section in numerical order:

SECTION 441 LIQUID CALCIUM CHLORIDE FOR BLENDING

DESCRIPTION

SUBSECTION 441.20 GENERAL

Liquid Calcium Chloride shall be used for blending into reclaimed base material as directed by the Engineer.

MATERIALS

SUBSECTION 441.40 MATERIALS

The calcium chloride solution shall be provided by the manufacturer as a true solution and shall not be reconstituted from flake calcium chloride. The calcium chloride shall meet the following material specifications (see ASTM Designation D98; AASHTO-M144).

Calcium Chloride $35\% \pm 1\%$

Alkali Chloride as NaCl 2% max.

Magnesium as MgCl 0.1%

Typical (in lbs. per gallon)

Calcium Chloride 5.05

Sodium Chloride 0.2

Magnesium Chloride	0.004
Calcium Sulfate	0.004
Water	<u>6.002</u>
	11.26

CONSTRUCTION METHODS

SUBSECTION 441.60 GENERAL

The distributor for calcium shall be capable of applying liquid calcium chloride in accurately measured quantities at any rate between 0.1 to 2.0 gallons per square yard of roadway surface, at any length of spray bars up to 20 feet. The distributor shall be capable of marinating a uniform rate of distribution of material regardless of change in grade, width or direction of the road. The distributor shall be equipped with a Digital Volumetric Accumulator capable of measuring gallons applied and distance traveled. The volume and measuring device shall be equipped with a power unit for the pump so that application is by pressure, not gravity. The spray nozzles and pressure system shall provide a sufficient and uniform fan-shaped spray of material throughout the entire length of the spray bar at all times while operating and shall be adjustable laterally and horizontally. The spray shall completely cover the roadway surface receiving the treatment.

After the first pulverization of the existing road pavement, one application of calcium chloride totaling 0.75 gallon per square yard shall be applied to the reclaimed material. The aggregate mass shall then be pulverized again to ensure proper asphalt, gravel and calcium chloride blending to the desired depth. Following base compaction, shaping, regrading and final compaction a final capping of 0.25 gallons per square yard of calcium chloride shall be applied.

COMPENSATION

SUBSECTION 441.80 METHOD OF MEASUREMENT

Liquid Calcium Chloride for Blending shall be measured by the gallon used.

SUBSECTION 441.81 BASIS OF PAYMENT

Payment for Liquid Calcium Chloride for Blending shall be paid for at the contract unit price per gallon used. Payment will be for the actual quantity applied that is not to exceed the quantity as calculated based on the aforementioned application rates and surface applications area as shown on the plans or as determined by the Engineer.

SUBSECTION 441.82 PAYMENT ITEMS

ITEM 441.	Liquid Calcium Chloride for Blending	Gallon
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SECTION 460 HOT MIX ASPHALT FOR LOCAL STREETS

CONSTRUCTION METHODS

SUBSECTION 460.42 WEATHER LIMITATIONS

Replace all references to 'April 1st' with 'Patriots Day'

Add the following sentence to the end of paragraph 2;

The 'sudden rain' provision is ONLY in the case of unforecasted rain, in all other cases the mix will be forfeited by the

contractor with no compensation including that mix that is in transit.

SUBSECTION 460.43 PREPARATION OF UNDERLYING SURFACE**C. Patching Existing Pavement Courses.**

Replace sentence 2 of paragraph 4 with the following:

The hot mix asphalt pavement shall be laid in courses with the top course 1 ½ inches after rolling and previous courses no greater than 2 inches after rolling and shall match the total thickness of the existing asphalt or as directed by the engineer. It is anticipated that HMA for patching will need to be hand laid. Sawcutting asphalt in accordance with Item 482.3 shall be performed for all roadway patching.

COMPENSATION**SUBSECTION 460.90 METHOD OF MEASUREMENT****A. Patching**

Add the following at the end of this subsection:

When quantities of HMA for patching are measured in cubic yards (such as patching), a factor of 1.70 tons per cubic yard will be used to convert the measurement to tons.

Sawcutting shall be measured by the linear foot of asphalt cut.

SUBSECTION 460.93 PAYMENT ITEMS

Add the following item:

451.	HMA for Patching	TON
482.3	Sawcutting	Linear Foot

**SECTION 460
CLASS I BITUMINOUS CONCRETE PAVEMENT TYPE I-1****CONSTRUCTION METHODS****SUBSECTION 460.49 HOT MIX ASPHALT JOINTS**

Add the following at the end of this subsection:

Tack coat and sand shall be applied to all joints composed of bituminous concrete immediately after paving or as directed by the Engineer.

SUBSECTION 460.63 PREPARATION OF UNDERLYING SURFACE

Replace the first sentence with the following:

HMA mixtures shall be placed only upon properly prepared and approved surfaces that are clean from foreign material, including grass and vegetation, and dry; and when weather conditions are suitable.

D. Leveling Courses

Add the following at the end of this subsection:

It should be noted that roads could require several lifts of leveling material in order to eliminate water problems in low spots prior to placing the top course of bituminous concrete.

COMPENSATION**SUBSECTION 460.90 METHOD OF MEASUREMENT****B. Tack Coat**

Add the following at the end of this subsection:

Tack coat and sand, when applied to joints in accordance with subsection 460.49, shall be considered incidental to Item 460, Class I Bituminous Concrete Pavement, Type I-1, with no additional measurement or payment to be made.

Add the following at the end of this subsection:

Price adjustments for hot mix asphalt (all asphalt items under section 460) will be made in accordance with Document 00811 published by MassDOT revised July 8, 2016. Asphalt adjustment shall be documented on each invoice with no adjustment shown on invoice one. Invoice two will include the adjusted asphalt cost from the invoice one tonnage and so on. The contractor shall provide documentation and calculations demonstrating the proper adjustment. The base bid for liquid asphalt on this contract shall be the period price at the date of the bid opening as published by MassDOT on its website.

**SECTION 470
HOT MIX ASPHALT BERM****COMPENSATION****SUBSECTION 470.81: BASIS OF PAYMENT**

Add the following at the end of this subsection:

Gravel borrow for the foundations shall be paid for at the contract unit price per cubic yard under item 151 Gravel Borrow.

Hot Mix Asphalt base under the berm shall be paid per ton under Item 451 HMA For Patching.

Insert the following new section in numerical order:

**SECTION 473
RANDOM CRACK SEALING – POLYMER & CRUMB RUBBER MODIFIED (PCRM) ASPHALT
COMPOUND WITH REINFORCING FIBERS****DESCRIPTION****SUBSECTION 473.20 GENERAL**

The work covered by this section of the specification consists of furnishing all plant, labor, equipment and materials necessary to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavements, including vegetation removal and sterilization of cracks, where necessary.

MATERIALS

SUBSECTION 473.40 GENERAL

Crack sealant shall be a modified asphalt-fiber compound designed specifically for improving the strength and performance of the parent asphalt sealant.

a) **The asphalt binder** shall consist of a blend of neat asphalt binder, chemically modified crumb rubber (CMCR), and a polymer package, all of which meet the following specifications:

- The binder will meet PG 64-28E requirements after modification including:
 - PG grade requirements of AASHTO M320
 - Requirements of AASHTO TP70/MP19
- Modification, at a minimum, shall consist of 7% crumb rubber, and the maximum particle size for the recycled tire rubber shall be 80 mesh (#80 sieve)
- The asphalt supplier shall provide testing for both the neat and modified asphalt binders
- See below for typical modified test results for 64-28E with crumb rubber:

DSR ORIGINAL

- kPa >1.00 @ 64° C. Fail temp = 76+° C

DSR RTFO

- kPa >2.20 @ 64° C. Fail temp = 76+° C

MSCR

- JNR (MSCR unit of measure): 3.2 E <0.5% @ 64° C
- R3200 (Average % Recovery): >70%

DSR PAV

- kPa <6000 @ 64° C

BBR

- Stiffness <300 @ -18° C. M-Value >0.300 @ -18° C

b) **The fiber reinforcing materials** shall be short-length polyester fibers having the following properties:

Length*	0.25 in. ± 0.02 in.
Elongation at Break (ASTM D2256-90)	35% ± 3%
Melting Point (ASTM D3418-82)	>475°F (246°C)
Crimps/Inch (ASTM D3937-90)	None
Cross Section	Round
Denier (ASTM D1577-90)	4.5 Nominal dpf
Tensile Strength (ASTM D2256-90)	>70,000 psi
Diameter	0.0008 in. **
Specific Gravity (ASTM D792-91)	1.32 to 1.40

* At temperatures ranging from ambient to maximum finished product mix temperature
** Subject to Normal Variations

c) **Modifying Compound:** The modified asphalt-fiber compound shall be mixed at a rate of 8% fiber weight to weight of asphalt cement. This compound having the same chemical base provides compatibility and exhibits excellent bond strengths. The fiber functions to re-distribute high stress and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

CONSTRUCTION METHODS

SUBSECTION 473.60 GENERAL**Preparation of Cracks**

- a) **Debris and Vegetation Removal:** All cracks shall be blown clean and sterilized by use of a propane air torch generating 2,000°F and 3,000' feet/second velocity to eliminate all vegetation, dirt, moisture and seeds. All debris removed from the cracks shall be removed
- b) **General:** No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present; or when the ambient temperature is below 50°F.

Preparation and Placement of Sealant

- a) The asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. To ensure a uniform fiber distribution in the sealant, and also to limit fluctuations in the application temperature of the blended material, the Contractor must have a full melter kettle of sealant mixed, heated to the proper application temperature, and ready for testing at the start of each work day. Once that batch of sealant is emptied from the melter kettle, crack sealing operations will cease for the remainder of the day. No new materials will be allowed to be added to the melter kettle during the work day under any circumstances. Minimum application temperature shall be 320°F.
- b) Sealant shall be delivered to the pavement cracks through a high pressure hose line and applicator shoe. Diameter of the applicator shoe is not to exceed 3.5" inches. Once the pavement cracks are sealed, the width of the sealant on the pavement (overbanding) shall be no greater than 3" inches. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent the sealant from being picked up at no additional cost to the Owner.

Workmanship

All workmanship shall be of the highest quality, and any excess of spilled sealant shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted, and will be corrected and/or replaced as required by the Owner.

Performance

- a) It is the intention of the Owner not to award a contract for this work under this or any other proposal if the contractor cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work, and that he has sufficient capital and equipment to enable him to prosecute the work successfully and to complete it within the time named in the contract. The Owner reserves the right to reject this or any other proposal, or to award the contract as is deemed to be in the best interest of said Owner.
- b) Properly formulated and mixed asphalt fiber compound overbanding shall not be greater than three inches (3") in width. Penalties will be imposed upon the Contractor for overbanding beyond three

inches (3").

- c) The Contractor must submit the following with his bid proposal:
 - A list of six (6) jobs which he has successfully completed with the polymer and crumb rubber modified asphalt compound with reinforcing fibers specified herein, giving the name and address of these projects so they can be investigated prior to the award of the contract.
 - The trade name of the crack sealant the contractor intends to use.
 - The manufacturer of the crack sealant the contractor intends to use.
- d) The Owner will require the Contractor to successfully perform a 200' foot test strip in the field prior to commencing work under the contract.
- e) Manufacturer's certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications, including the following:
 - Performance Grade of Unmodified Asphalt: **PG 64-28S** (standard)
 - AASHTO M-320, Table 1
 - 7% chemically-modified crumb rubber (CMCR)
 - Composed of 100% 80-mesh recycled tire rubber
 - 3-4% specially formulated polymer package
 - Performance Grade of Modified Asphalt: **PG 64-28E** (able to withstand "extremely heavy" traffic loads)
 - AASHTO M-320, Table 1
 - "E" Jnr 3.2 kPa @ 64°C: <0.5%
 - R3200 (Average % Recovery) @ 3.200 kPa: >70%
 - 8% polyester reinforcing fibers

SUBSECTION 473.61 EQUIPMENT

Equipment used in the performance of the work required by this section of the specification shall be subject to approval by the Owner, and maintained in a satisfactory working condition at all times.

- (a) **Air Compressor:** Air compressors shall be capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 lbs. per square inch pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.
- (b) **Broom or Sweeper:** Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway and airfield pavements shall be used to remove debris, dirt and dust from the cracks.
- (c) **Melter:** The unit used to melt or maintain the crack sealant compound at the recommended application temperature shall be the indirect fired type. It shall be equipped with a remote heat exchanger and hot oil circulation pump capable of maintaining a consistent temperature of the heat

transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the vat containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than

600°F. The melter shall be equipped with a satisfactory means of agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the melter. The melter must be equipped with a thermostatic control calibrated between 200°F and 550°F, and must be capable of pumping an 8% fiber content blend.

(d)

COMPENSATION

SUBSECTION 473.80 METHOD OF MEASUREMENT

The quantity to be measured for payment will be the number of gallons of crack sealing actually applied, and this quantity shall be determined and verified daily. .

SUBSECTION 473.81 BASIS OF PAYMENT

The accepted quantity of crack sealing will be paid for at the contract unit price per gallon of the type specified in the proposal, which shall be full compensation for furnishing, transporting, handling and placing the material specified and furnishing of all labor, tools, equipment and incidentals for the satisfactory completion of this item.

Asphalt Price Adjustments

Contractor's bid prices shall be based upon the current State DOT asphalt cement index posted exactly two (2) weeks prior to the due date for receipt of bids ("Bid Index"). If the posted State DOT asphalt cement index in place when the work is performed differs by more than 5% from the Bid Index, then contractor's invoices shall include price adjustments for the asphaltic materials (Micro-Surfacing, crack sealing, chip seal phase of cape seals, and tack coat), and such adjustments shall be proportionate to the mix design asphalt content (%) of each of these materials.

SUBSECTION 473.82 PAYMENT ITEMS

ITEM 473.	Crack Sealing	Gallon
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SECTION 500 CURB AND EDGING

DESCRIPTION

SUBSECTION 501.20 GENERAL

Add the following at the end of this subsection:

This item of work also consists of furnishing and setting splayed end and sloped face granite curb. Splayed end curb shall be Type VA4 in size and in accordance with M9.04.1. The cut edge shall be sawn to an approximately level plane, and shall have no projections or depressions greater than 1/8 inch. The sloped face granite curb shall be Type VA4 in size and conform to the details shown on the project plans. Granite Curb shall be set in a concrete bed with asphalt patch as shown on the project plans.

Sawcutting is required in advance of setting curb and is incidental to the item as described in subsection 501.80.

MATERIALS

SUBSECTION 501.40 GENERAL

Add the following at the end of this subsection:

M4 Cement Concrete (4,000 PSI)

CONSTRUCTION METHODS

SUBSECTION 501.65 FILLING ABOUT TRENCH

Replace this section with the following:

After the curb, curb corners, curb inlets, and edging is set, the space between it and the wall of the trench shall be filled to the height of the bottom of the existing asphalt layer (or as directed by engineer if no existing asphalt) on front and back of curbing with cement concrete (M4-4,000 psi). The front (road side) of the curbing trench shall then be filled, with bituminous concrete installed in lifts no greater than two inches (2") and thoroughly compacted, to top of existing asphalt.

COMPENSATION

SUBSECTION 501.80 METHOD OF MEASUREMENT

Add the following at the end of this subsection:

No additional measurement shall be made for Cement Concrete installed as part of the installation of Granite Curb.

Bituminous Concrete shall be measured per ton installed and thoroughly compacted.

Sawcutting shall be incidental to the items for Granite curb and Granite edging.

Item 504.2 Granite Curb Type VA4 – Splayed End will be measured per each furnished and installed.

SUBSECTION 501.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

Cement Concrete shall be considered incidental to the item for Granite Curb with no additional payment made.

Bituminous Concrete shall be paid per ton under Item 451 HMA For Patching.

Sawcutting shall be incidental to the items for Granite curb and Granite edging.

Hot mix asphalt transition curbs shall be paid under which ever of the following two items they are transitioning to, either 570.2 – Hot Mix Asphalt Curb Type 2 or 570.3 – Hot Mix Asphalt Curb Type 3. If the hot mix asphalt transition curb is not transitioning from or to HMA Curb Type 2 or Type 3 then it shall be paid for under item 570.3 – Hot Mix Asphalt Curb Type 3.

Item 504.2 Granite Curb Type VA4 – Splayed End will be paid for at the contract unit price per each, complete in place, which shall include sawcuts made in existing pavement, cement concrete placed to set the curb and all other work

necessary to complete the installation.

SUBSECTION 501.82 PAYMENT ITEMS

Add the following at the end of this subsection:

ITEM 504.2	Granite Curb Type VA4 – Splayed End	Each
ITEM 504.3	Sloped Face Granite Curb	Foot

SECTION 665

FENCES AND GATES REMOVED AND RESET, AND REMOVED AND STACKED

Change the title of this Section to read:

SECTION 665

FENCES AND GATES REMOVED AND RESET, STACKED OR DISPOSED

DESCRIPTION

SUBSECTION 665.20 GENERAL

Insert the word "disposing," after the word "resetting,"

CONSTRUCTION METHODS

Add the following new Subsection:

SUBSECTION 665.63 DISPOSING

All fencing to be removed and disposed shall be disposed of by the contractor outside and away from the limits of the project, with no additional measurement or payment.

COMPENSATION

SUBSECTION 665.80 METHOD OF MEASUREMENT

Replace the first six words of the second paragraph with "Fence that is removed and stacked or disposed".

SUBSECTION 665.81 BASIS OF PAYMENT

Replace the first six words of the second paragraph with "Fence that is removed and stacked or disposed".

SUBSECTION 665.82 PAYMENT ITEMS

Add the following payment item in numerical order:

ITEM 669.1.	Fence Removed and Disposed	Linear Foot
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SECTION 670

SEDIMENTATION FENCE

Change the title of this Section to read:

SECTION 670

SEDIMENTATION FENCE AND COMPOST SOCK

DESCRIPTION**SUBSECTION 670.20 GENERAL***Add the following at the end of this subsection:*

Sediment fences and/or compost sock shall be erected in all areas adjacent to wetland areas before any construction activity commences to prevent overflow of unsuitable materials into adjacent areas of streams.

The Contractor shall furnish and install degradable compost socks for perimeter berm at locations shown on the as directed by the engineer. Removal shall be inclusive to the item, and will be conducted as directed by the Engineer. The compost sock for perimeter berm shall be used as such and is not intended for areas which may receive concentrated flows such as channels or restricted outlets.

MATERIALS**SUBSECTION 670.40 MATERIALS***Replace the first sentence of this subsection with the following:*

The siltation fence shall be a woven material and meet the following design criteria:

	Test Method	Values
Grab Strength	ASTM D-1682	90 lbs
Elongation	ASTM D-1682	15% min. 50% max. @ 45 lbs.
Permitivity	ASTM 4491	0.01 (Sec. 1)
EOS (sieve No.)	----	20
U.V. Resistance (500 hours exposure)	ASTM D-4355	70

The compost sock shall be a biodegradable material and meet the following design criteria:

- A mesh tube, oval to round in cross section, 12 inches in diameter. Sock must have a minimum durability of one year after installation.
- Composed of a knitted biodegradable or photodegradable material with 1/8 to 3/8 inch openings. Fabric must be clean; evenly woven; free of encrusted concrete or other contaminated materials; and free from cuts, tears, broken or missing yarns and thin, open, or weak places.

The compost media shall meet the following design criteria:

- Compost may be derived from green material consisting of chipped, shredded, or ground vegetation; or clean recycled wood products.
- Compost must not be derived from mixed municipal solid waste and be reasonably free of visible contaminants. Compost must not contain paint, petroleum products, pesticides or any other chemical residues harmful to animal life or plant growth. Compost must not possess objectionable odors. 2.3 Chemical, Physical and Biological Parameters.
- Compost products specified for use in this application must meet the criteria specified in Table 1, below.
- Only compost products that meet all applicable state and federal regulations pertaining to its production and distribution may be used in this application. Approved compost products must meet related state and federal chemical contaminant (e.g., heavy metals, pesticides, etc.) and pathogen limits pertaining to the feedstocks (source materials) in which it is derived.

Parameters	Units of Measure	Characteristics
pH2	pH units	5.0-8.5

Soluble salt concentration (electrical conductivity)	dS/m (mmhos/cm)	Maximum 5
Moisture Content	% wet weight basis	30-60
Organic Matter Content	% dry weight basis	25-65
Particle Size	% passing a selected mesh size, dry weight basis	3", 100% passing 1", 90% to 100% passing ¾", 70% to 100% passing ¼", 30% to 75% passing Maximum: particle size length of 6" (no more than 60% passing ¼" in high rainfall/flow rate situations)
Stability Carbon Dioxide Evolution Rate	Mg CO ₂ -C per g OM per day	<8
Physical Contaminants (man-made inerts)	%, dry weight basis	<1

Note: The composition of this media is similar to the vegetated filter berm media from AASHTO R 51. Very coarse (woody) composts that contain less than 30% of fine particles (1mm in size) shall be avoided, as optimum reductions in total suspended solids (TSS) is desired and berms may be seeded.

Renumber subsection 670.40 to read 670.60.

CONSTRUCTION METHODS

SUBSECTION 670.60 CONSTRUCTION METHODS

Add the following at the end of this subsection:

Temporary sediment fences, or portions thereof, may be left in place at the discretion of the Engineer. Sediment fence shall not be removed until approved by the Conservation Commission and the Engineer.

Installation and maintenance of compost sock;

Site Preparation

To ensure optimum performance, cut down or remove heavy vegetation, and level uneven surfaces to ensure that the filter sock uniformly contacts the ground surface.

Installation

- Prior to installation, clear the area of obstructions including rocks, clods, and debris greater than one inch
- Fill socks uniformly with compost to the desired length such that the logs do not deform. Secure ends.
- When more than one compost sock is required to achieve desired length, join socks longitudinally with a 1 foot 6 inch overlap.
- Compost sock may be installed using installation method Type 1, Type 2, or a combination:
 - Installation method Type 1: – Place directly on the ground with good contact with the finish grade. – Secure with wood stakes every 4 feet along the length of the compost sock. – Secure the ends of the compost sock by placing a stake 6 inches from the end of the compost sock. – Drive the stakes into the soil so that the top of the stake is less than 2 inches above the top of the compost sock.
 - Installation method Type 2: – Place directly on the ground with good contact with the finish grade. – Secure with rope and notched wood stakes. – Drive stakes into the soil until the notch is even with the top of the compost sock. – Lace the rope between stakes and over the compost sock. Knot the rope at each stake. – Tighten the compost sock to the surface of the slope by driving the stakes further into the soil.

- Install compost sock approximately parallel to the slope contour or as otherwise specified in the SWPPP or ordered by the Engineer.

-

Maintenance

- Inspect compost socks regularly, and after each rainfall event, to ensure that they are intact and functioning correctly. Remove sediment that builds up behind the sock before it interferes with the functionality of the sock. Deposit the removed sediment within the project limits so that the sediment is not subject to erosion by wind or by water.
- Repair or replace split, torn, or unraveling socks. Replace broken or split stakes. Sagging or slumping compost socks must be repaired with additional stakes or replaced. Correct locations where rills and other evidence of concentrated runoff have occurred beneath the socks. Compost socks must be repaired or replaced within 24 hours of identifying the deficiency.
- Remove sock mesh tubes when directed by the Engineer. Cut mesh and empty sock contents in place and rake to distribute evenly.

COMPENSATION**SUBSECTION 670.80 METHOD OF MEASUREMENT***Add the following at the end of this subsection:*

Compost sock shall be measured per linear foot complete in place and shall include removal and disposal.

SUBSECTION 670.82 PAYMENT ITEMS*Add the following item:*

697.2	Compost Sock	Linear Foot
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**SECTION 697
SILT SACK****DESCRIPTION****SUBSECTION 697.20 GENERAL**

The work under this item shall conform to the relevant provisions of Section 670 of the Supplemental Specifications and the following:

Contractor shall provide and maintain silt sack at all existing catch basins within the project limits and as required by the Engineer.

MATERIALS**SUBSECTION 697.40 GENERAL**

The silt sack shall be manufactured from a woven polypropylene fabric with an oil-absorbent pillow insert or made completely from an oil-absorbent fabric with a woven pillow insert that meets or exceeds the following specifications.

PROPERTIES	TEST METHOD	UNITS
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Grab Tensile Strength	ASTM D-4632	265 LBS
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Grab Tensile Elongation	ASTM D-4632	20%
Puncture	ASTM D-4833	135 LBS
Mullen Burst	ASTM D-3786	420 PS
Trapezoid Tear	ASTM D-4533	45 LBS
UV Resistance	ASTM D-4355	90%
Apparent Opening Size	ASTM D-4751	20 US SIEVE
Flow Rate	ASTM D-4491	200GAL/MIN/SQ FT
Permittivity	ASTM D-4491	1.5 SEC-1

All silt sacks must have an overflow to accommodate rain events.

CONSTRUCTION METHODS

SUBSECTION 697.60 GENERAL

The work under this item shall include the periodic maintenance of the sacks that have become clogged with debris. The Contractor shall keep silt sacks clear during construction and shall not remove them until pavement is in place and the seeded areas have taken root. The cost of replacing the silk sack shall be incidental to this item. No separate payment shall be for additional silt sacks used at a single location.

The Contractor shall be responsible for field measuring all existing and new drainage structures to ensure that the proper size sediment collection sack is provided for each structure.

Disposal of Accumulated Material

All material removed from the silt sacks shall be properly handled and disposed of by the Contractor in accordance with all Massachusetts Department of Environmental Protection (DEP) regulations, policies and guidelines.

Material removed shall be transported immediately to the place of disposal in machines or trucks that will not spill the material along the roadway. Any material falling on the roadway shall be removed at the Contractor's own expense.

NOTE: The Contractor should be aware that many landfills may require testing and analysis of the material prior to accepting it for disposal at the facility. The Contractor shall be aware that in the event that the test results indicate a hazardous waste that cannot be land filled. The Contractor shall be responsible for all costs associated with adhering to special regulations regarding disposal of waste materials removed from silt sacks.

COMPENSATION

SUBSECTION 697.80 METHOD OF MEASUREMENT

Silt Sack will be measured for payment by the each, complete in place.

SUBSECTION 697.81 BASIS OF PAYMENT

Silt Sack will be paid for at the Contract unit price per each, which price shall include all labor, materials, equipment and incidental costs required to provide, install, maintain and remove silt sacks in locations required by the Engineer for the duration of the project.

SUBSECTION 697.82 PAYMENT ITEMS

ITEM 697.1	Silt Sack	Each
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**SECTION 700
INCIDENTAL WORK**

Replace subsection 701 with the following:

INTERIM SUBSECTION 701: CEMENT CONCRETE SIDEWALKS, PEDESTRIAN CURB RAMPS, AND DRIVEWAYS**DESCRIPTION****701.20: General**

This work shall consist of the construction of cement concrete sidewalks, pedestrian curb ramps, and driveways in accordance with the specifications and within the tolerances established on the plans.

Minimum clear path of travel for all walkways shall be no less than 52" per Town of Lexington Standards and as shown on the standard details.

MATERIALS**701.30: General**

Materials shall meet the requirements specified in the following Subsections of Division III, Materials except as noted herein:

Gravel Borrow, Type b.....	M1.03.0
Cement Concrete (\geq 4,000 psi)	M4.02.00
Preformed Expansion Joint Filler.....	M9.14.0 ^[1]

^[1] Preformed expansion joint filler shall conform to Subsection M9.14.0 or ASTM D8139.

Fiber Mesh shall meet the following requirements;

Fiber mesh fibers (100% virgin polypropylene, collated, fibrillated fibers) at a rate of 1.0 - 1.5 lb. per cubic yard of concrete shall be added for reinforcement. Fiber mesh shall be FIBERMESH 150, manufactured by PROPEX Concrete Systems or an approved equal. Installation shall be per manufacturer's recommendations.

The following best practices may be incorporated into the cement concrete mix design at no additional cost to the Department as identified herein.

A. Combined Aggregate System.

The combined aggregate system for the mix design may be analyzed using the Tarantula Curve, Shilstone Chart, fineness modulus, and coarse aggregate content to enhance the properties of the concrete.

1. Tarantula Curve.

The combined aggregate system for the mix design may be analyzed using the Tarantula Curve to evaluate potential properties of the concrete, including workability, segregation, edge slumping, surface finishing, and cohesion.

Table 701.30-1: Tarantula Curve Particle Size Distribution

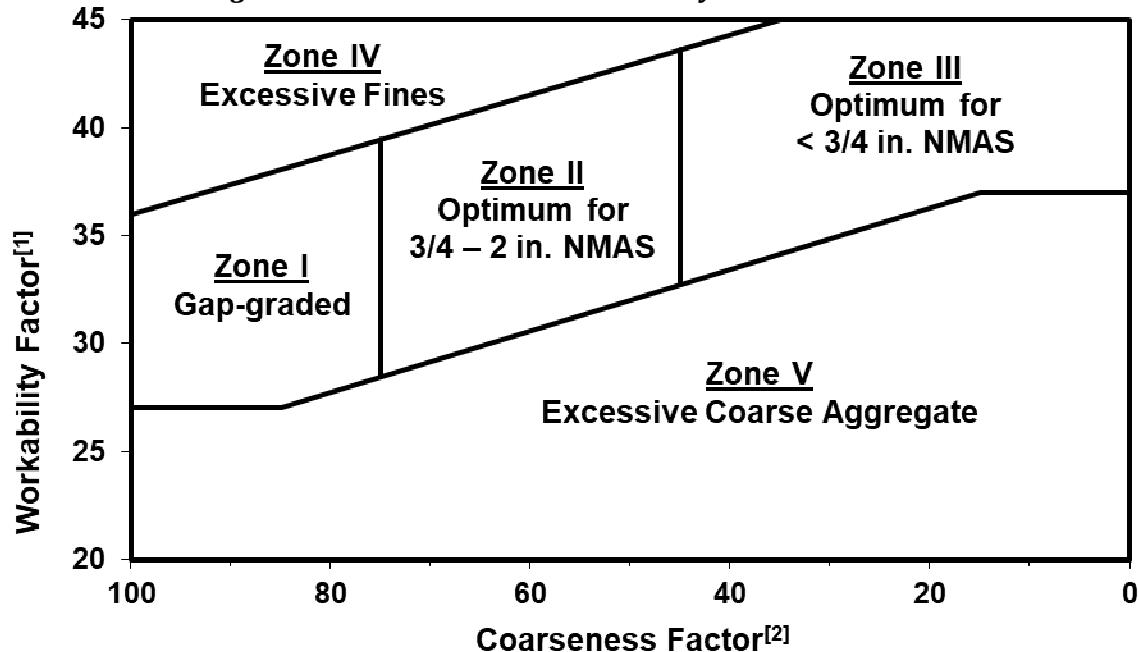
Sieve Opening	Percent by Mass Targets (%)		Percent by Mass Retained (%)		
	Passing	Retained			
1-1/2 in.	100	-	-	-	-
1 in.	92	8	0 - 16	-	-
3/4 in.	82	10	0 - 20	-	-
1/2 in.	69	13	4 - 20	-	-
3/8 in.	56	13	4 - 20	-	-
No. 4	43	13	4 - 20	-	-
No. 8	37	6	0 - 12	Coarse Sand 20 - 40	-
No. 16	31	6	0 - 12		-
No. 30	18	13	4 - 20	Fine Sand 24 - 34	
No. 50	5	13	4 - 20		
No. 100	0	5	0 - 10		
No. 200	0	0	0 - 2	-	

2. Shilstone Workability-Coarseness Chart.

The combined aggregate system for the mix design may be analyzed using the Shilstone Workability-Coarseness Chart, to evaluate potential properties of the concrete, including workability.

Table 701.30-2: Shilstone Workability-Coarseness

Zone	Property	Cause
Zone I	Gap-graded; High potential for segregation during placement and consolidation; Cracking, blistering, spalling, and scaling	Deficiency in intermediate particles; Non-cohesive
Zone II	Optimum mixture for nominal maximum aggregate size from 2 in. – $\frac{3}{4}$ in.	Optimized workability factor and coarseness factor
Zone III	Optimum mixture for nominal maximum aggregate size < $\frac{3}{4}$ in.	Optimized workability factor and coarseness factor
Zone IV	Sticky; High potential for segregation during consolidation and finishing; Variable strength, high shrinkage, cracking, curling, spalling, and scaling	Excessive fines
Zone V	Rocky; Lacking plasticity	Excessive amount of coarse and intermediate aggregate

Figure 701.30-1: Shilstone Workability-Coarseness Chart

[1] The workability factor is determined by the equation $WF = W + (C - 564) / 38$, where WF = workability factor, W = percent passing No. 8 sieve and C = total cementitious materials content.

[2] The coarseness factor is determined by the equation $CF = (Q/R) / 100$, where CF = coarseness factor, Q = cumulative percent retained on 3/8 in. sieve and R = cumulative percent retained on No. 8 sieve.

3. Fineness Modulus.

The combined aggregate system for the mix design may be analyzed using the fineness modulus, to evaluate

potential properties of the concrete, including the fineness or coarseness of the mix design and estimating the design proportions of fine and coarse aggregates. The coarseness of the mix design increases as the fineness modulus increases. The fineness modulus is determined by calculating the total cumulative percentages by mass retained on each designated sieve and dividing by 100.

4. Coarse Aggregate Content.

The combined aggregate system for the mix design may be analyzed using the coarse aggregate content. The coarse aggregate content is determined by calculating the total cumulative percentages by mass retained on the No. 4 sieve.

B. Paste System.

The quality of the paste system is determined by the water-cementitious ratio, air content, cementitious materials, and chemical admixtures incorporated into the mix design.

1. Water-Cementitious Ratio.

The water-cementitious ratio for the mix design may be analyzed to evaluate potential properties of the concrete, including strength, concrete and reinforcement bonding, and resistance to freezing, thawing, de-icing, sulfate reaction, corrosion of steel reinforcement, drying shrinkage, cracking, and volume change from wetting and drying. The water-cementitious ratio is determined by calculating the total water content by mass and dividing by the total cement and supplementary cementitious material (SCM) content by mass. The recommended water-cementitious ratio design target is identified in Table 701.30-3. The water-cementitious ratio shall be less than or equal to 0.45.

Table 701.30-3: Freezing, Thawing, and De-icing Resistance

Exposure Class	Severity	Condition	Water-Cementitious Ratio	
			Recommendation	Requirement
F3	Very Severe	Exposed to freezing and thawing cycles and accumulation of snow, ice, and de-icing chemicals; Frequent exposure to water	≤ 0.40	≤ 0.45

2. Air Content.

The air content for the mix design may be analyzed to evaluate potential properties of the concrete, including strength and resistance to freezing, thawing, de-icing, and sulfate reaction. The recommended air content design targets are identified in Table 701.30-4.

Table 701.30-4: Freezing, Thawing, and De-icing Resistance

Exposure Class	Severity	Condition	Nominal Maximum Aggregate Size (in.)	Air Content Target Recommendation (%)
F3	Very Severe	Exposed to freezing and thawing cycles and accumulation of snow, ice, and de-icing chemicals; Frequent exposure to water	3/8	7.5
			1/2	7.0
			3/4	6.0

3. Cement and Supplementary Cementitious Materials Content.

The cement and supplementary cementitious materials content incorporated into the mix design shall promote

quality properties of the cement concrete, including resistance to alkali silica reaction, freezing, thawing, de-icing, and sulfate reaction. Incorporation of supplementary cementitious materials (SCM) in cement concrete may affect workmanship properties, including workability, bleed rate, setting time, and other properties. Adequate adjustments in Contractor workmanship practices, including placement, finishing, curing, and other construction practices shall be required to account for these changes in properties and to prevent scaling due to freezing, thawing, and de-icing cycles. The cement and supplementary cementitious materials content shall meet the design criteria identified in Table 701.30-5.

Table 701.30-5: Alkali Silica Reaction and Freezing, Thawing, and De-icing Resistance^{[1][2]}

Exposure Class	Severity	Condition	Material	Replacement by Weight of Cement (%)
F3	Very Severe	Exposed to freezing and thawing cycles and accumulation of snow, ice, and de-icing chemicals; Frequent exposure to water	Low Alkali Cement ($\leq 0.60\%$ Alkalinity)	-
			Blended Hydraulic Cement ^[3]	-
			Fly Ash (Class F)	15 – 30
			Slag (Grade 100 or 120)	25 – 50
			Silica Fume	5 – 10
			Total SCM	≤ 50
			Total Fly Ash and Silica Fume	≤ 35

^[1] Acceptable replacement by weight of cement for alkali silica reaction resistance shall be determined by the alkali silica reaction resistance performance test results and the criteria identified in Table 701.73-1: Minimum Acceptance Sampling and Testing Requirements.

^[2] Test results meeting the alkali silica reaction resistance performance criteria of Table 701.30-6: Alternative Performance Evaluation to Alkali Silica Reaction Resistance Design Criteria may supersede the replacement by weight of cement design criteria.

^[3] SCMs in blended hydraulic cement shall meet the criteria identified for fly ash, slag, and silica fume.

Table 701.30-6: Alternative Performance Evaluation to Alkali Silica Reaction Resistance Design Criteria

Method	Quality Characteristic	Criteria
C295	Petrographic Examination for Potential Alkali Aggregate Reactive Constituents and Deleterious Materials in Aggregate ^[1]	–
	Optically Strained, Microfractured or Microcrystalline Quartz (%)	≤ 5.0
	Chert or Chalcedony (%)	≤ 3.0
	Trydimite or Cristobalite (%)	≤ 1.0
	Opal (%)	≤ 0.5
	Natural Volcanic Glass (%)	≤ 3.0
T 380	Alkali Silica Reaction Resistance: Expansion of Miniature Concrete Prisms at 56 days (%)	≤ 0.03 ^[2]

^[1] Examination of aggregate shall be performed and reported to identify and quantify potential alkali-aggregate reactive constituents and deleterious materials in aggregate, as defined in ASTM C294 Standard Descriptive Nomenclature for Constituents of Concrete Aggregates and ASTM C295 Standard Guide for Petrographic Examination of Aggregates for Concrete.

^[2] 56-day expansion results greater than 0.03 but less than or equal to 0.04 shall be considered non-reactive if the average two-week rate of expansion from day 56 to day 84 is less than or equal to 0.01%, otherwise, expansion results shall be considered reactive.

4. Chemical Admixtures.

Chemical admixtures may be incorporated into the mix design to enhance the properties of the concrete.

Table 701.30-7: Chemical Admixtures

Spec.	Type	Chemical Admixture	Properties
M 194	A	Water-Reducing	Increases Workability and Air Content; Decreases Water Demand (5 – 10%, 3 – 6 in. Slump)
	B	Retarding	Increases Initial and Final Setting Time, Air Content, Long-Term Strength; Offsetting of Accelerating Effect of Hot Weather; Decreases Early-Age Strength
	C	Accelerating	Increases Early-Age Strength; Decreases Initial and Final Setting Time
	D	Water-Reducing and Retarding	Type A and Type B Admixture Properties
	E	Water-Reducing and Accelerating	Type A and Type C Admixture Properties
	F	High Range Water-Reducing	Increases Workability (More Effective than Type A), Air Content, Early-Age Strength, and Ultimate Strength; Decreases Water Demand (12 – 40%, > 6 in. Slump) and Permeability
	G	High Range Water-Reducing and Retarding	Type F and Type B Admixture Properties
	S-SRA	Shrinkage Reducing	Increases Setting Time; Decreases Drying Shrinkage Cracking and Bleed Rate
	S-CRA	Crack Reducing	Decreases Cracking (More Effective than SRAs) and Crack Width
M 154	AEA	Air-Entrainning	Increases Cohesion, Workability, Stabilization of Air Bubbles, Resistance to Freezing, Thawing, and De-icing, Resistance to Alkali-Reactive Environment, and Resistance to Sulfate Reaction
M 194^[1]	MRWRA	Mid Range Water-Reducing	Type A and Type F Admixture Properties; Increases Workability (Especially Concrete with SCMs); Decreases Water Demand (6 – 12 %, 5 – 8 in. Slump)
C1622	CWA	Cold Weather	Increases Hydration Rate; Decreases Freezing Point of Mixing Water

[1] Mid range water-reducing admixtures (MRWRA) may meet either water-reducing (A) or high range water-reducing (F) admixture criteria.

5. Paste Content.

The paste content for the mix design may be optimized to enhance potential properties of the concrete, including workability, strength, permeability, and resistance to drying shrinkage and cracking and volume change from wetting and drying. The volume of paste should adequately fill the voids and provide sufficient separation between the aggregate particles to promote workability and effective bonding of particles.

Table 701.30-8: Paste Content

Mix Design Characteristic	Recommendation
Volume of Cement Concrete (cf)^[1]	27
Paste Content (%)^[2]	$\leq 28^{[3]}$
Paste Content to Aggregate Void Content Ratio^[4]	1.25 – 1.75
Excess Volume of Paste for Workability (%)^[5]	–

[1] The volume of cement concrete is determined by the following equation, where W = Weight (lbs.), SG = Specific Gravity, D = Density (pcf), and V = Volume (cf).

$$\begin{aligned}
 V_{CEMENT} &= W_{CEMENT} / SG_{CEMENT} * D_{WATER} \\
 V_{SCM} &= W_{SCM} / SG_{SCM} * D_{WATER} \\
 V_{ADMIXTURE} &= V_{ADMIXTURE} \text{ in oz.} / 957.5 \text{ oz. per cf} \\
 V_{WATER} &= V_{WATER} \text{ in gal.} / 7.48 \text{ gal. per cf} \\
 V_{COARSE} &= W_{COARSE} / SG_{COARSE} * D_{WATER} \\
 V_{FINE} &= W_{FINE} / SG_{FINE} * D_{WATER} \\
 V_{CONCRETE} &= V_{CEMENT} + V_{SCM} + V_{ADMIXTURE} + V_{WATER} + V_{COARSE} + V_{FINE} + V_{AIR}
 \end{aligned}$$

[2] The paste content by volume of cement concrete is determined by the following equation, where V = Volume (cf) and PC = Paste Content (%).

$$\begin{aligned}
 V_{PASTE} &= V_{CEMENT} + V_{SCM} + V_{ADMIXTURE} + V_{WATER} \\
 PC_{CONCRETE} &= V_{PASTE} / V_{CONCRETE}
 \end{aligned}$$

[3] The cracking tendency of structural concrete is significantly reduced when the paste content by volume is less than or equal to 28 percent.

[4] The paste content to aggregate void content ratio is determined by the following equation, where D = Density (pcf), SG = Specific Gravity, BD = Bulk Density (pcf), VC = Void Content (%), V = Volume (cf), AVC = Aggregate Void Content (%), PC = Paste Content (%), and R = Ratio. Workability increases as the paste content to aggregate void content ratio increases. Decreased paste content to aggregate void content ratios will result in decreased workability, where water-reducing admixtures provide no benefit.

$$\begin{aligned}
 VC_{COARSE} &= SG_{COARSE} * D_{WATER} - BD_{COARSE} / D_{COARSE} \\
 VC_{FINE} &= SG_{FINE} * D_{WATER} - BD_{FINE} / D_{FINE} \\
 VC_{AGGREGATE} &= [(V_{COARSE} / (V_{COARSE} + V_{FINE})) * VC_{COARSE} + (V_{FINE} / (V_{COARSE} + V_{FINE})) * VC_{FINE}] \\
 AVC_{CONCRETE} &= [VC_{AGGREGATE} * ((V_{COARSE} + V_{FINE}) / V_{CONCRETE})] \\
 R_{PC-AVC} &= PC_{CONCRETE} / AVC_{CONCRETE}
 \end{aligned}$$

[5] The excess paste content for workability is determined by the following equation, where PC = Paste Content (%), AC = Air Content (%), AVC = Aggregate Void Content (%), and EPC = Excess Paste Content for Workability (%).

$$EPC_{CONCRETE} = PC_{CONCRETE} + AC_{CONCRETE} - AVC_{CONCRETE}$$

C. Initial Curing Materials.

The materials and procedures used for initial curing methods of cement concrete shall meet the Manufacturer's instructions and recommendations and the requirements specified herein.

Cement concrete with a low to negligible bleeding rate, exposure to highly evaporative environments, high content of silica fume, fine cement, or other fine cementitious material, low water to cementitious ratio, high air content, or water-reducing admixtures have an increased susceptibility to surface drying and plastic shrinkage between placement and finishing operations. Initial curing materials and procedures shall be applied immediately after the bleed water sheen has disappeared from the surface of the concrete or the concrete surface exhibits loss of moisture and surface drying, between placement and finishing operations. Initial curing materials shall not be worked into the surface in subsequent finishing operations.

1. Liquid-Applied Evaporation Reducers.

Liquid-applied evaporation reducers used for initial curing methods shall produce an effective monomolecular film over the bleed water layer, to reduce the rate of evaporation of the bleed water from the surface and plastic shrinkage when the evaporation rate equals or exceeds the bleeding rate.

D. Intermediate Curing Materials.

The materials and procedures used for intermediate curing methods of cement concrete shall meet the Manufacturer's instructions and recommendations and the requirements specified herein.

In instances where finishing operations have been completed prior to the concrete achieving final set and the concrete surface exhibits loss of moisture and surface drying, the following curing materials and procedures shall be applied immediately to the concrete surface prior to the application of final curing materials, to prevent the loss of moisture without damaging the concrete surface, until final set of the concrete has been achieved and final curing materials have been applied to the concrete surface.

- 701.30.C.1: Liquid-Applied Evaporation Reducers
- 701.30.E.3.a: Liquid Membrane-Forming Compounds for Curing
- 701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing

E. Final Curing Materials.

The materials and procedures used for final curing methods of cement concrete shall meet the Manufacturer's instructions and recommendations and the requirements specified herein.

Curing water shall be free of deleterious impurities, causing staining and deterioration. The potential staining ability of curing water shall be evaluated by means of CRD-C401 (US Army Corps of Engineers 1975) for instances where curing water quality is questioned. Curing water shall not exceed a temperature differential of more than 20°F from the internal concrete temperature, to prevent cracking due to temperature gradients causing strain that exceeds the strain capacity of concrete. Curing water shall remain above freezing temperatures throughout the duration of the curing cycle.

Final curing materials and procedures shall be applied to the concrete surface immediately after application of initial and intermediate curing materials, finishing operations, and final set of cement concrete, to prevent the loss of moisture and surface drying.

Materials used for final curing methods of cement concrete shall accommodate all exposed cement concrete surfaces with a continuous application of moisture throughout the entire duration of the final curing method cycle and provide controlled and gradual termination of the final curing method cycle.

Final curing materials applied to the concrete shall allow the concrete to mature sufficiently to achieve its designed and desired properties, including strength, volume stability, permeability, durability, and resistance to freezing, thawing, and de-icing cycles. Insufficient application of final curing materials results in decreased strength and durability of the top surface of concrete.

Protection to the concrete surface and curing materials shall be required in instances where adverse weather conditions are present, until curing operations can be initiated without damaging the surface of the concrete.

Final curing materials and procedures shall be applied to the concrete surface throughout the entire duration of the curing cycle and meet minimum sustained temperature, duration, and strength requirements, as specified in applicable Division II: Construction Details and herein. Controlled and gradual termination of the final curing method cycle shall begin only after all specified conditions are met, until the concrete gradually cools to within 20°F of the ambient temperature.

1. Saturated Covers.

Saturated covers used for final curing methods shall meet AASHTO M 182, Class 3. Saturated covers shall be in good condition, free from holes, tears, or other defects that would render it unsuitable for curing cement concrete and cementitious materials. Saturated covers shall be dried to prevent mildew when storing. Prior to application, saturated covers shall be thoroughly rinsed in water and free of harmful substances that are deleterious or cause discoloration to cement concrete and cementitious materials. Saturated covers shall have sufficient thickness and proper positioning onto the surface to maximize moisture retention. Saturated covers shall contain a sufficient amount of moisture to prevent moisture loss from the surface of cement concrete and cementitious materials. Saturated covers shall have the ability to retain sufficient moisture from continuous watering so that a film of water remains on the surface of cement concrete and cementitious materials throughout the entire duration of the final curing method cycle. Saturated covers shall not absorb water from cement concrete and cementitious materials. Polyethylene film may be applied over the saturated cover to limit the amount of continuous watering required for sufficient moisture retainage. Saturated covers shall accommodate uniform and slow drying of cement concrete and cementitious materials surfaces immediately prior to removal.

2. Sheet Materials.

Sheet materials, including polyethylene film, white burlap-polyethylene sheeting, and reinforced paper, used for final curing methods shall meet ASTM C171 and the requirements specified herein. Sheet materials shall inhibit moisture loss and reduce temperature rise in concrete exposed to radiation from the sun during the final curing method cycle. Adjoining covers shall overlap not less than 12 inches. All edges of the sheet materials shall be secured to maintain a moist environment.

a. Polyethylene Film.

Polyethylene film shall be clear, white, or black in color and consist of a single sheet manufactured from polyethylene resins, be free of visible defects, including tears, wrinkles, and discontinuity. The film shall prohibit mottling and uneven spots from appearing on the surface of concrete, due to variations in temperature, moisture content, or both. Application of additional curing water under the film or application of a polyethylene film bonded to absorbent fabric to the concrete surface may be required to prevent mottling and to retain and evenly distribute the moisture. Polyethylene film shall accommodate concrete surfaces with constant contact without damage. The film shall be sufficient in length to extend beyond the edges of the concrete surface. Edges of adjacent polyethylene film shall overlap a minimum of 6 inches and be tightly sealed with the use of sand, wood planks, pressure-sensitive tape, mastic, or glue to maintain close contact with the concrete surface, retain moisture, and prevent the formation of air pockets throughout the entire duration of the final curing method cycle.

i. White Polyethylene Film.

White polyethylene film shall minimize heat gain caused by absorption of solar radiation and shall be exclusively used during warm weather applications.

ii. Clear and Black Polyethylene Films.

Clear and black polyethylene films shall inhibit absorption of solar radiation for cold weather applications.

b. White Burlap-Polyethylene Sheeting.

White burlap-polyethylene sheeting shall be securely bonded to the burlap so to avoid separation of the materials during handling and curing of the concrete.

c. Reinforced Impervious Paper.

Reinforced impervious paper shall be white in color, consist of two sheets of kraft paper cemented together with a bituminous adhesive, and reinforced with embedded cords or strands of fiber running in both directions. Reinforced impervious paper shall be free of holes, tears, and pin holes from deterioration of the paper through repeated use. Reinforced impervious paper shall be treated to prevent tearing when wetted and dried. Reuse of reinforced

impervious paper shall be permitted so long as it is able to retain moisture on the surface of concrete. The paper shall be discarded and prohibited from use when moisture is no longer retained in the material.

3. Liquid Membrane-Forming Compounds.

Compounds shall form a continuous, non-yellowing, and durable film with quality moisture-retention properties. Compounds shall maintain the relative humidity of the concrete surface above 80% for seven days to sustain cement hydration. Compounds shall not affect the original color of the concrete surface. Compounds shall not degrade due to exposure to ultraviolet light from direct sunlight. Compounds shall meet the local and federal allowable Volatile Organic Compound (VOC) content limits.

White-pigmented compounds shall be used in instances where solar-heat gain is concern to the concrete surface. White-pigmented compounds shall be agitated in the container prior to application to prevent pigment from settling out resulting in non-uniform coverage and ineffective curing.

Careful considerations shall be made by the Contractor to determine if the evaporation rate is exceeding the rate of bleeding, thus causing the surface to appear dry even though bleeding is still occurring. To diagnose and prevent this condition, the Contractor may place a transparent plastic sheet over a test area of the uncured and unfinished concrete surface and shall determine if any bleed water accumulates under the plastic. Under such conditions, the application of liquid membrane-forming compounds to the concrete surface shall be delayed to prevent bleed water from being sealed below the concrete surface, map cracking of the membrane films, reduction in moisture-retention capability, and the need for reapplication of the compound.

Prior to use, compounds shall be thoroughly mixed, stirred, and agitated per the Manufacturer's instructions and recommendations.

Compounds shall be applied continuously and uniformly to the surface of the concrete per the Manufacturer's instructions and recommendations. Compounds shall be applied immediately after the disappearance of the surface water sheen following final finishing. Applying of the compound immediately after final finishing and before all free water on the surface has evaporated will help prevent the formation of cracks. When using compounds to reduce moisture loss from formed surfaces, the exposed surface shall be wetted immediately after form removal and kept moist until the curing compound is applied. The concrete shall be allowed to reach a uniformly damp appearance with no free water on the surface, and then application of the compound shall begin at once. Delayed application will result in surface drying, absorption of the compound into the concrete, and no forming of a continuous membrane.

The concrete surface shall be damp when the compound is applied. Power-driven spray equipment shall be used for uniform application of compounds on large paving projects. Spray nozzles recommended by the compound Manufacturer and use of windshields shall be arranged by the Contractor to prevent wind-blown loss of compound and to ensure proper coverage application rates are achieved. The compound shall be applied by power sprayer, using appropriate wands and nozzles with pressures between 25 and 100 psi. The Contractor shall fill the power sprayer with curing compound from the Manufacturer's original container in the presence of the Engineer. Any dilution as recommended by the Manufacturer shall take place in the presence of the Engineer. For very small areas such as repairs, the compound shall be applied with a wide, soft-bristled brush or paint roller.

The Contractor shall verify the application rate and procedures are in accordance with the Manufacturer's instructions and recommendations. At least one uniform coat shall be applied at a rate of 150 to 200 ft²/gallon. On very deeply textured surfaces, the surface area to be treated shall be at least twice the surface area of the surface. In such cases, two separate applications may be needed, each at 200 ft²/gallon or greater if specified by the Manufacturer to achieve the desired moisture retention rate, with the first being allowed to become tacky before the second is applied. If two coats are necessary to ensure complete coverage, for effective protection the second coat should be applied at right angles to the first. Complete coverage of the surface shall be attained due to the potential for formation of small pinholes in the membrane, which will result in loss of moisture from the concrete.

Compounds shall not sag, run off peaks, or collect in grooves.

Compounds and procedures shall be compatible with concrete surfaces receiving subsequent applications or placements of concrete, overlays, coatings, paints, sealers, finishes or other toppings to ensure acceptable bonding to the concrete. Testing to establish compatibility among the curing compound, subsequent surface treatments, concrete moisture content and the actual finished surface texture of the concrete shall be conducted when compatibility is not known. The compound Manufacturer shall be consulted by the Contractor to determine the compatibility of the application. Compounds shall not be applied to concrete surfaces where bonding of subsequent applications or placements is incompatible or is of concern. The use of wax-based curing compounds shall be

prohibited in instances where concrete surfaces are subject to additional toppings and vehicular, pedestrian, or other traffic. Deliberate removal of compounds in the presence of the Engineer and in accordance with Manufacturer's instructions and recommendations shall be conducted as an alternative to compatibility testing, incompatibility, or in instances where bonding is of concern. Bonding of subsequent materials may still be inhibited by the presence of the compound even after the moisture retention characteristics of the compound have diminished.

a. Liquid Membrane-Forming Compounds for Curing.

Liquid membrane-forming compounds for curing shall meet ASTM C309, the Manufacturer's instructions and recommendations, and the requirements specified herein.

Table 701.30-1: Types of Compounds for Curing

Type	Description
Type 1	Clear or translucent without dye
Type 1-D	Clear or translucent with fugitive dye
Type 2	White pigmented

Table 701.30-2: Composition Class of Compounds for Curing

Type	Description
Class A	Unrestricted composition, generally wax-based products
Class B	ASTM D883 resin-based products

b. Liquid Membrane-Forming Compounds for Curing and Sealing.

Liquid membrane-forming compounds for curing and sealing shall meet ASTM C 1315, the Manufacturer's instructions and recommendations, and the requirements specified herein. In addition to moisture-retention capabilities compounds shall exhibit specific properties, including alkali resistance, acid resistance, adhesion-promoting quality, and resistance to degradation by ultraviolet light.

Table 701.30-3: Types of Compounds for Curing and Sealing

Type	Description
Type I	Clear or translucent
Type II	White pigmented

Table 701.30-4: Class of Compounds for Curing and Sealing

Type	Description
Class A	Non-yellowing

F. Protective Sealing Compounds.

Protective sealing compounds shall maintain valid listing on the Department Qualified Construction Materials List (QCML) and meet AASHTO M 224, NCHRP Report 244 and the requirements specified herein. Protective sealing compounds shall sufficiently penetrate the concrete to seal the surface pores and fill the capillaries of the concrete by chemically reacting with the concrete and forming a hydrophobic layer. Protective sealing

compounds shall limit the penetration of liquids, gases, and harmful substances into hardened concrete, including water, de-icing agents, and carbon dioxide to protect concrete from freezing, thawing, and de-icing cycles, corrosion of reinforcing steel, and acid attack. Protective sealing compounds shall limit the buildup of vapor pressure between the concrete and the applied sealer. Protective sealing compounds shall retard the penetration of harmful substances into hardened concrete. Protective sealing compounds shall maintain their protective properties during environmental exposure to freezing, thawing, and de-icing cycles. Protective sealing compounds shall not reduce the frictional properties of the concrete. Protective sealing compounds shall not affect the original color of the concrete surface if maintaining the original color is desired by the Department. Protective sealers shall meet the local and federal allowable Volatile Organic Compound (VOC) content limits.

Curing methods conforming to Department specifications shall be applied to the concrete prior to the application of protective sealers. Protective sealers shall not be applied to the concrete for a minimum of 28 days after placement and the surface shall be sufficiently prepared, clean, and dry for at least 24 hours with ambient temperatures exceeding 60°F. Protective sealers shall not be applied to concrete placed where freezing, thawing, and de-icing cycles are expected immediately after, due to the retainage of water in the concrete. Periodic re-application shall be required for protective penetrants requiring multiple applications and for concrete surfaces exhibiting wear to ensure long-term protection of the concrete surface.

G. Cold Weather Concreting Materials.

Cold weather concreting shall be defined as the procedures, operations, materials, and equipment required for the mixing, delivery, placement, finishing, curing, and protection of concrete during cold weather conditions, while exposed to air temperatures falling below, or expected to fall below 40°F.

The protection period shall be defined as the minimum duration required to prevent concrete from the negative effects of cold weather exposure. The protection period shall remain in place while cold weather conditions exist. Controlled and gradual termination of the protection period shall be conducted only after 100% f'c is attained and all specified conditions are met.

The procedures, operations, materials, and equipment selected for cold weather concreting shall adequately maintain specified temperature ranges by addressing all variables, including ambient weather conditions, geometry of the structure, and mix design proportions. Concrete temperatures for cold weather concreting shall meet Table 701.30-5.

Table 701.30-5: Concrete Temperature Requirements for Cold Weather Concreting

Phase	Cold Weather Temperature (°F)	Concrete Temperature (°F)
Mixing	30-39	60-75
	0-30	65-80
	< 0	70-85
Placement	< 40	55-75
Protection Period	< 40	55-75
Termination of Protection Period - Allowable Rate of Decrease in 24 Hours	< 40	≤ 50

Cold weather concreting procedures, operations, materials, and equipment shall be developed and performed to prevent damage to concrete due to freezing at early ages, to ensure that the concrete develops the recommended strength for safe removal of forms, to maintain curing conditions that promote quality strength and durability development, to limit rapid temperature fluctuation, and to provide protection consistent with intended serviceability of the structure. The Contractor shall develop and submit to the Department for review and approval, cold weather concreting procedures for the mixing, delivery, placement, finishing, curing, and protection of concrete during cold

weather, including:

- Procedures for protecting the subgrade from frost and the accumulation of ice or snow on reinforcement or forms prior to placement
- Methods and requirements for cold weather protection and temperature control of constituent materials incorporated into the mix design
- Chemical admixtures incorporated into the mix design for cold weather protection and temperature control
- Methods and requirements for cold weather protection and temperature control during mixing, delivery, placement, finishing, curing, and protection period
- Curing methods to be used during and following the protection period
- Types of covering, insulation, heating, or enclosures to be provided
- Methods for verification of in-place strength
- Procedures for measuring and recording concrete temperatures
- Procedures for preventing drying during dry, windy conditions

All procedures, operations, materials, and equipment required for adequate protection and curing shall be present and ready for use prior to concrete production.

1. Insulating Materials.

Insulating materials used for cold weather concreting shall meet the requirements specified herein. The thermal resistance of the proposed insulation system shall be determined to meet the concrete temperature range requirements specified herein. Supplemental heat, including hydronic heating systems, shall be applied in instances where insulating materials cannot achieve the concrete temperature requirements.

2. Heaters.

Heaters used for cold weather concreting including direct fired, indirect fired, and hydronic heaters shall meet ANSI A10.10 carbon monoxide limits, safety regulations for ventilation, and the stability, operation, fueling, and maintenance of heaters and the requirements specified herein.

a. Direct Fired Heaters.

Direct fired heaters generate heat to an enclosed space through the combustion of fossil fuels, including oil, kerosene, propane, gasoline, and natural gas. Hot air comprised of carbon dioxide and carbon monoxide combustion products, is discharged into the enclosed space. Direct fired heaters shall be prohibited from heating the air directly surrounding the concrete surface due to calcium carbonate formation interfering with the hydration reaction, from the reaction between the carbon dioxide generated from the combustion of fossil fuels and the calcium hydroxide on the surface of freshly placed concrete, resulting in a soft, chalky, and nondurable concrete surface. Direct fired heaters shall only be used on concrete surfaces protected from fossil fuel combustion products.

b. Indirect Fired Heaters.

Indirect fired heaters generate heat to an enclosed space through the combustion of fossil fuels, including oil, kerosene, propane, gasoline, and natural gas. The carbon dioxide and carbon monoxide combustion products are expelled through venting, resulting in clean heated air discharged into the enclosed space. Indirect fired heaters are suitable for heating the air directly surrounding the concrete surface.

c. Hydronic Heaters.

Hydronic heaters generate heat to an enclosed space through the circulation of the heat-transfer fluid in a closed system of pipes or hoses. The heat-transfer fluid is comprised of a propylene glycol water solution and is heated through the combustion of fossil fuels, including diesel fuel and kerosene. The combustion of fossil fuel occurs outside of the enclosed space and does not expose the concrete surface to the deleterious effects of carbon dioxide. After the concrete placement achieves final set, polyethylene film or other suitable material shall sufficiently serve as a vapor barrier. The heat-transfer hoses shall be placed on top of the vapor barrier and covered with insulating

materials meeting 701.30.G.1. Hydronic heaters shall be used to thaw or preheat subgrades prior to concrete placement and provide supplementary heat to insulating materials. Hydronic heaters shall provide an even distribution of heat to prevent curling and cracking induced by temperature gradients within concrete.

3. Enclosures.

Enclosures shall be made of wood, canvas tarpaulins, polyethylene film, or prefabricated rigid plastic. Enclosures shall be airtight, block wind, prevent admittance of cold air, conserve heat, and withstand wind and snow loads. Enclosures shall provide adequate headroom for craftsmen and sufficient space between the concrete and the enclosure to permit free circulation of warm air. Supplementary heat shall be supplied to enclosures by hydronic heaters, live steam, hot forced air, or indirect fired combustion heaters. Icing along the perimeter of the enclosure shall be prevented when live steam is utilized. Heaters and ducts shall be positioned to prevent the hot, dry air from overheating or drying the concrete surface. Insulating materials meeting 701.30.G.1 shall be applied as a vapor barrier to the concrete surface immediate after final set is attained.

H. Hot Weather Concreting Materials.

Hot weather concreting shall be defined as the procedures, operations, materials, and equipment required for the mixing, delivery, placement, finishing, bleed water evaporation, curing, and protection of concrete during hot weather conditions, while exposed to air temperatures exceeding, or expected to exceed 80°F; concrete temperatures approaching, or expected to approach 90°F; evaporation rates of surface water approaching, or expected to approach the bleeding rate of the concrete; high solar radiation; low relative humidity; and high wind speed.

The protection period shall be defined as the minimum duration required to prevent concrete from the negative effects of hot weather exposure, including the acceleration of rate of moisture loss and rate of cement hydration, difficulties in curing, increased concrete temperature, increased water demand, accelerated slump loss, increased rate of setting, increased tendency for plastic shrinkage and thermal cracking, increased potential for cold joints, and difficulties in controlling entrained air content. The protection period shall remain in place while hot weather conditions exist. Controlled and gradual termination of the protection period shall be conducted when conditions permit. The allowable rate of temperature decrease shall not exceed 5°F per hour and meet the allowable rate of temperature decrease specified in 701.30.G: Cold Weather Concreting Materials.

The procedures, operations, materials, and equipment selected for hot weather concreting shall adequately maintain specified temperature ranges and evaporation rates by addressing all variables, including ambient weather conditions, geometry of the structure, and mix design proportions. Initial materials meeting 701.30.C: Initial Curing Materials shall be applied to the concrete surface while the concrete and air temperatures, relative humidity of the air, and the wind speed have the capacity to evaporate free water from the fresh concrete surface at a rate that is equal to or greater than bleeding rate of the concrete. The evaporation rate of surface water shall be determined by the following equation:

$$E = (T_c^{2.5} - r * T_a^{2.5})(1 + 0.4V) \times 10^{-6}$$

where E = evaporation rate of water-covered surface (lb/ft²/hr), T_c = concrete temperature of the evaporating surface (°F), r = relative humidity of air surrounding the evaporating surface (%), T_a = temperature of the air surrounding the evaporative surface (°F), and V = average wind speed 20 inches above the evaporating surface. The air surrounding the evaporating surface shall be defined as the air approximately 4 to 6 feet above the evaporating surface on the windward side and shielded from the sun's rays.

Hot weather concreting procedures, operations, materials, and equipment shall be developed and performed to prevent damage to concrete and promote long-term durability. The Contractor shall develop and submit to the Department for review and approval, hot weather concreting procedures for the mixing, delivery, placement, finishing, curing, and protection of concrete during hot weather, including:

- Procedures for preparing the subgrade prior to placement
- Methods and requirements for hot weather protection and temperature control of constituent materials incorporated into the mix design
- Chemical admixtures incorporated into the mix design for hot weather protection and temperature control
- Methods and requirements for hot weather protection and temperature control during mixing, delivery, placement, finishing, curing, and protection period
- Initial curing methods to be used to reduce surface evaporation

- Curing methods to be used during and following the protection period
- Types of covering, insulation, cooling, or enclosures to be provided
- Evaporation rate and bleeding rate of concrete calculations
- Procedures for measuring and recording concrete temperatures
- Procedures for preventing drying during dry, windy conditions

All procedures, operations, materials, and equipment required for adequate protection and curing shall be present and ready for use prior to concrete production.

CONSTRUCTION METHODS

701.40: Pre-Placement

A. Excavation.

Excavation of the area shall be in accordance with the applicable portions of Subsection 120: Excavation.

B. Subgrade and Subbase.

The subgrade for the sidewalks and driveways shall be shaped parallel to the proposed surface of the sidewalks and driveways and thoroughly compacted. All depressions in the subgrade shall be filled with suitable material and again compacted until the surface is smooth and hard. Prior to the placement of the subbase, the Contractor shall inspect the prepared subgrade to ensure that it is in conformance with the required grade and cross-section. Subgrade shall be fine graded to meet the applicable requirements of Subsection 170: Grading.

After the subgrade has been prepared, a gravel subbase shall be placed upon it. After being compacted thoroughly, the subbase shall be at least 8 inches thick and parallel to the proposed surface of the sidewalk. Prior to the placement of the cement concrete, the Contractor shall inspect the prepared subbase material to ensure that it is in conformance with the required grade and cross-section. Subbase material that is not in accordance with the plans or specifications shall be reworked or replaced to meet the applicable requirements of Subsection 170: Grading before the start of cement concrete placement. When placing cement concrete, the compacted subbase shall not be frozen or have standing water.

C. Forms.

Side forms and transverse forms shall be smooth, free from warp, of sufficient strength to resist springing out of shape, of a depth to conform to the thickness of the proposed sidewalk or pedestrian curb ramp and of a type satisfactory to the Engineer.

All mortar or dirt from previously used forms shall be completely removed prior to use. The forms shall be well staked and thoroughly graded and set to the established lines with their upper edge conforming to the grade of the finished sidewalk or pedestrian curb ramp which shall have sufficient pitch to the roadside edge to provide for surface drainage.

All pedestrian curb ramp joints and transition sections which define grade changes shall be formed staked and checked for dimension, grade and slope conformance prior to placing cement concrete.

All forms shall be oiled before placing concrete.

701.41: Placement

The concrete shall be placed in alternate slabs 30 ft long except as otherwise ordered. The slabs shall be separated by transverse preformed expansion joint filler $\frac{1}{2}$ in. thick.

Preformed expansion joint filler shall be placed adjacent to or around existing structures as directed.

Detectable warning panels conforming to the plans shall be securely incorporated into the work by means acceptable to the Engineer. When a plan is not available detectable warning panels shall be installed at all ramps or as otherwise directed by the engineer. Detectable warning panels shall be brick red unless otherwise indicated in the standard details.

All concrete shall be fiber reinforced.

Placement of cement concrete shall be completed no later than 2 P.M. on each day of operation to ensure proper set-up time before the end of the work day.

The Town of Lexington Engineering Division does not allow pouring of cement concrete sidewalks between November 1 and March 31. All sections prone to pedestrian and/or vehicular movement shall be protected, as necessary, until proper curing has occurred. All vandalized sections shall be replaced at contractor's expense.

On the foundation as specified above, the concrete shall be placed in such quantity that after being thoroughly consolidated in place it shall be 4 in. deep. At driveways and curb ramps, the sidewalks shall be 6 in. deep. At short sections of sidewalk connecting pedestrian ramps, the concrete sidewalk shall be 6 in. deep as specified on the plans or as directed by the Engineer.

In conveying the concrete from the place of mixing to the place of deposit, the operation shall be conducted in such a manner that no mortar will be lost, and the concrete shall be so handled that the concrete will be of uniform composition throughout, showing neither excess nor lack of mortar in any one place.

The surface of all concrete sidewalks shall be uniformly scored into block units of areas not more than 36 ft². The depth of the scoring shall be at least 1/2 in. deep and no more than 1/2 in. wide.

701.42: Initial Curing

In instances where the bleed water sheen has disappeared from the surface of the concrete or the concrete surface exhibits loss of moisture and surface drying between placement and finishing operations, the Contractor shall apply one of the following initial curing materials and procedures meeting 701.30.C: Initial Curing Materials until finishing operations occur.

- 701.30.C.1: Liquid-Applied Evaporation Reducers

Initial curing materials shall not be worked into the surface in subsequent finishing operations.

701.43: Finishing

The finishing of concrete surface shall be done by experienced and competent cement finishers. No finishing operation shall be performed while free water is present. Finishing operations shall be delayed until all bleed water and water sheen has left the surface and the concrete has started to stiffen. After water sheen has disappeared, edging operations, where required, shall be completed. After edging and joining operations, the surface shall be floated. Magnesium floats shall be used for all finishing operations. If necessary tooled joints and edges shall be rerun before and after floating to maintain uniformity. After floating, the surface shall be brushed by drawing a soft-bristled push broom with a long handle over the surface of the concrete to produce a nonslip surface.

701.44: Intermediate Curing

In instances where finishing operations have been completed prior to the concrete achieving final set and the concrete surface exhibits loss of moisture and surface drying, the Contractor shall apply one of the following intermediate curing materials and procedures meeting 701.30.D: Intermediate Curing Materials immediately to the concrete surface prior to the application of final curing materials, to prevent the loss of moisture without damaging the concrete surface, until final set of the concrete has been achieved and final curing materials have been applied to the concrete surface.

- 701.30.C.1: Liquid-Applied Evaporation Reducers
- 701.30.E.3.a: Liquid Membrane-Forming Compounds for Curing
- 701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing
-

701.45: Final Curing

The Contractor shall apply one of the following final curing materials and procedures meeting 701.30.E: Final Curing Materials to the concrete surface immediately after application of initial and intermediate curing materials, finishing operations, and final set of cement concrete, to prevent the loss of moisture and surface drying.

- 701.30.E.1: Saturated Covers
- 701.30.E.2: Sheet Materials
- 701.30.E.3.a: Liquid Membrane-Forming Compounds for Curing
- 701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing

The Contractor shall apply final curing materials and procedures to the concrete surface throughout the entire duration of the curing cycle and meet minimum sustained temperature, duration, and strength requirements, as specified in Table 701.45-1. Controlled and gradual termination of the curing cycle shall begin after all specified conditions are met.

Table 701.45-1: Termination of Curing Cycle

Sustained Concrete Temperature	Final Curing Cycle Duration	Compressive Strength ^[1]
$50^{\circ}\text{F} \leq ^{\circ}\text{F} \leq 90^{\circ}\text{F}$	\geq Seven (7) days	$\geq 70\% f_c$

^[1] Compressive strength cylinders for termination of curing cycle shall be cast and field cured with the same environmental conditions that the sidewalk is subjected to throughout the entire duration of the final curing cycle, per 701.73: Acceptance Sampling and Testing.

701.46: Protective Sealing

The Contractor shall apply sealing materials and procedures meeting 701.30.F: Protective Sealing Compounds only if one or more of the following final curing materials and procedures were applied:

- 701.30.E.1: Saturated Covers
- 701.30.E.2: Sheet Materials
- 701.30.E.3.a: Liquid Membrane-Forming Compounds for Curing

Protective sealing compounds shall not be applied to concrete surfaces applied with a final curing material and procedure meeting 701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing.

701.47: Cold Weather Concreting

The Contractor shall conduct cold weather concreting procedures, operations, materials, and equipment required for the mixing, delivery, placement, finishing, curing, and protection of concrete, while surfaces are exposed to air temperatures falling below, or expected to fall below 40°F in accordance with 701.30.G: Cold Weather Concreting Materials. All procedures, operations, materials, and equipment required for adequate protection and curing shall be present and ready for use prior to concrete production.

701.48: Hot Weather Concreting

The Contractor shall conduct hot weather concreting procedures, operations, materials, and equipment required for the mixing, delivery, placement, finishing, curing, and protection of concrete, while surfaces are exposed to air temperatures exceeding, or expected to exceed 80°F; concrete temperatures approaching, or expected to approach 90°F; evaporation rates of surface water approaching, or expected to approach the bleeding rate of the concrete; high solar radiation; low relative humidity; and high wind speed in accordance with 701.30.H: Hot Weather Concreting Materials. All procedures, operations, materials, and equipment required for adequate protection and curing shall be present and ready for use prior to concrete production

CONTRACTOR QUALITY CONTROL

701.60: General

The Contractor shall provide adequate Quality Control (QC) to ensure that all materials and workmanship conform with the specification requirements. The Contractor shall perform QC activities as outlined further below.

701.61: Contractor Quality Control Plan

The Contractor shall provide and maintain a Quality Control Plan (QC Plan). The QC Plan should sufficiently document the QC processes of all Contractor parties (i.e. Prime Contractor, Subcontractors, Producers) performing work required under this specification.

701.62: Production Personnel

A. Foreman.

A foreman shall be present throughout the entire duration of the construction operation with at least one of the following personnel certifications.

- NRMCA Concrete Exterior Finisher Certification
- ACI Concrete Flatwork Technician and Flatwork Finisher

The foreman is responsible for the oversight of the construction operation per the requirements specified in Table 701.62-1.

Table 701.62-1: Minimum Foreman Activities

Operatio n	Foreman	Activity
Oversigh t	One (1)	Review and compare batch ticket quantities and sources to approved mix design
		Monitors conformance to AASHTO M 157 Standard Specification for Ready-Mixed Concrete
		Monitors conformance to Department specifications
		Monitors Production Personnel activities
		Verifies proper equipment is on hand prior to start of construction
		Monitors equipment, environmental conditions, materials, and workmanship
		Prohibits the use of prohibited equipment and practices
		Acknowledges sampling, testing, and inspection results

B. Operators.

Concrete sidewalk shall be constructed by sufficiently staffed, trained, experienced, and qualified equipment operators and craftsmen, who are presently involved in sidewalk construction, throughout the entire duration of the construction operation, per the requirements specified in Table 701.62-2.

Table 701.62-2: Minimum Operator Activities

Operation	Operators^{1]}	Activity
701.40: Pre- Placement	Two (2)	Apply sufficient base compaction
		Moisten sub-base, free of standing water
		Secure forms, straight and level
		Mark expansion locations
		Prohibited Practices: Placement on frozen sub-grade
701.41: Placement (Concrete Discharging)	Two (2)	Direct concrete trucks
		Handle chute discharge and truck movement
		Assist in preparing concrete for testing
		Direct trucks to washout area
		Provide general help
		Prohibited Practices: Adding constituent materials not in conformance with AASHTO M 157 or without Department consent
701.41: Placement	Two (2)	Localize placement to minimize moving material
		Level concrete in front of the screed
		Operate come-alongs or flat headed shovel to move concrete in form
		Consolidate concrete along form edge to avoid honeycombing
		Operate screed over top of forms in sawing action for surface leveling
		Operate magnesium bull float to push coarse aggregate below the surface and fill in the low spots or depressions
		Prohibited Practices: Toothed raking, dragging of internal vibrator, and internal vibrator to move concrete; steel troweling or floating
701.42: Initial Curing	Apply an initial curing material and procedure per 701.42	
	One (1)	701.30.C.1: Liquid-Applied Evaporation Reducers
701.43: Finishing	Two (2)	Permit bleed water to dissipate and concrete to set
		Operate a hose drag or squeegee to remove water from the surface
		Check surface for flatness, fill/cut as necessary
		Finish surface with magnesium float
		Apply pulled broom finish at proper time to acceptable texture
		Clean broom when excessive mortar adheres
		Remove excess water from broom before use

		Finish edges and joints
		Finish well formed, properly spaced joints to sufficient depth
		Prohibited Practices: Steel troweling or floating; adding water to the surface; excessive working of surface; pushing broom across surface

^[1] Recommended number of operators.

Table 701.62-2: Minimum Operator Activities (Continued)

Operation	Operators ^[1]	Activity
701.44: Intermediate Curing	If applicable, apply an intermediate curing material and procedure per 701.44	
	One (1)	701.30.C.1: Liquid-Applied Evaporation Reducers
	One (1)	701.30.E.3.a: Liquid Membrane-Forming Compounds
	One (1)	701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing
701.45: Final Curing	Apply a final curing material and procedure meeting 701.45	
	Four (4)	701.30.E.1: Saturated Covers
	Four (4)	701.30.E.2: Sheet Materials
	One (1)	701.30.E.3.a: Liquid Membrane-Forming Compounds
	One (1)	701.30.E.3.b: Liquid Membrane-Forming Compounds for Curing and Sealing
701.46: Protective Sealing	One (1)	If applicable, apply a protective sealing material and procedure per 701.46
701.47: Cold Weather Concreting	Four (4)	If applicable, apply cold weather concreting materials and procedures per 701.47 and the Department approved Contractor cold weather concreting plan
701.48: Hot Weather Concreting	Four (4)	If applicable, apply hot weather concreting materials and procedures per 701.48 and the Department approved Contractor hot weather concreting plan

^[1] Recommended number of operators.

701.63: Quality Control Inspection

Quality Control inspection shall be performed and reported on inspection report forms by qualified Quality Control Technicians, to confirm conformance to specifications and to visually inspect equipment, environmental conditions, materials, and workmanship. Quality Control Technicians shall obtain at least one of the following personnel certifications.

- NRMCA Concrete Exterior Finisher Certification
- ACI Concrete Flatwork Technician and Flatwork Finisher

Quality Control inspection report forms shall be completed by the Contractor and submitted to the Department for review.

DEPARTMENT ACCEPTANCE

701.70: General

Acceptance shall be performed by the Department, including consultants under direct contract with the Department independent of the Contractor, to evaluate the degree of compliance with contract requirements, to monitor each Contractor entity's Quality Control activities, to determine the corresponding value for a given product, and to determine the acceptability of all material produced and placed.

701.71: Acceptance of Contractor Quality Control Plan

The Department will review the Contractor Quality Control Plan. Department approval shall be subject to conformance with the requirements specified herein.

701.72: Acceptance Inspection

Acceptance inspection will be performed and reported by qualified Department (or designee) Acceptance Technicians, to confirm conformance to specifications and to visually inspect equipment, environmental conditions, materials, and workmanship.

701.73: Acceptance Sampling and Testing

Acceptance sampling and testing will be performed and reported by qualified Department (or designee) Acceptance Technicians, to provide quality characteristic data used for Department Acceptance determination, per the requirements specified herein.

Table 701.73-1: Minimum Acceptance Sampling and Testing Requirements

Property	Method	Quality Characteristic	Sublot Size	Minimum Test Frequency	Point of Sampling	Criteria
Uniformity	T 119	Slump Allowable Tolerance (in.) ^[1]	100 cy	1 per Sublot	Point of Discharge	Target \pm 1.5
Workability	T 119	Segregation Resistance ^[2]	100 cy	1 per Sublot	Point of Discharge	Pass
Thermal	T 309	Concrete Temperature (°F)	100 cy	1 per Sublot	Point of Discharge	50 – 90
Strength	T 22	Compressive Strength at 7 Days for Curing Termination (psi) ^[3]	100 cy	1 per Sublot	Point of Discharge	$\geq 70\% f_c$
		Compressive Strength at 28 Days (psi) ^[3]	100 cy	1 per Sublot	Point of Discharge	$\geq 100\% f_c$
		Compressive Strength at 56 Days (psi) ^{[3][4]}	100 cy	1 per Sublot	Point of Discharge	$\geq 100\% f_c$
Durability	T 121	Freezing and Thawing Resistance: Air Content (%)	100 cy	1 per Sublot	Point of Discharge	5.5 – 8.5
	T 152					
	T 196					
	T 303 or C1567	Alkali Silica Reaction Resistance: Expansion at 14 Days (%)	-	1 per Annual Mix Design Submission Cycle	-	≤ 0.08

^[1] Test result and the Producer's mix design target shall be within the specified allowable tolerances. Slump shall be reported on the Producer's mix design batch ticket for each delivery.

^[2] Testing for segregation resistance shall be performed while the concrete is being discharged and during AASHTO T 119 Standard Method of Test for Slump of Hydraulic Cement Concrete. Visual signs of segregation include coarse particles advancing in front of or behind the fine particles and mortar and a tendency for coarse aggregate to separate from the mortar, particularly when the mixture is being consolidated.

^[3] Three (3) 4 x 8 in. compressive strength cylinders shall be cast and tested for each age per sublot.

^[4] Testing only required if compressive strength results at 28 days do not conform with specifications.

COMPENSATION

701.80: Method of Measurement

Cement Concrete Sidewalks, Pedestrian Curb Ramps, and Driveways will be measured in square yards. Excavation will be measured by the cubic yard as specified in 120.80: Method of Measurement. Gravel Borrow will be measured by the cubic yard as specified in 150.80: Method of Measurement. Fine grading and compacting will be measured by the square yard as specified in 170.88: Method of Measurement.

Sawcutting shall be incidental to the items for cement concrete sidewalks.

Fiber reinforcement shall be incidental to all cement concrete items.

701.81: Basis of Payment

Cement Concrete Sidewalk, Cement Concrete Pedestrian Curb Ramp, and Cement Concrete Driveway will be paid for at the contract unit price per square yard complete in place, including detectable warning panels and all incidental materials, labor, and equipment necessary to complete the work to the satisfaction of the Engineer. Gravel will be paid for at the contract unit price per cubic yard under Item 151: Gravel Borrow. Fine grading and compacting will be paid for at the contract unit price per square yard under Item 170: Fine Grading and Compacting – Subgrade Areas. Excavation will be paid for at the contract unit price per cubic yard under the excavation items.

Fiber reinforcement shall be incidental to all cement concrete items.

Sawcutting shall be incidental to the items for cement concrete sidewalks.

701.82: Payment Items

701.	Cement Concrete Sidewalk	Square Yard
701.1	Cement Concrete Sidewalk Driveways	Square Yard
701.2	Cement Concrete Pedestrian Curb Ramp	Square Yard

Insert the following new subsection in numerical order:

SECTION 702 HOT MIX ASPHALT SIDEWALKS AND DRIVEWAYS

CONSTRUCTION METHODS

702.42 CONSTRUCTION OF HOT MIX ASPHALT SIDEWALKS AND DRIVEWAYS

E. Hot Mix Asphalt Placement.

Replace (b) with the following:

For sidewalks, the compacted lift thickness for intermediate course shall be 2.00 in. and the surface course shall be 1.25in.

COMPENSATION**702.81 BASIS OF PAYMENT**

Emphasis shall be added to the last sentence:

All required sawcutting in the existing pavement in accordance with this specification will be included in the contract unit price for Hot Mix Asphalt Sidewalks and Driveways.

Add the following the end of this subsection:

Price adjustments for hot mix asphalt (all asphalt items under section 701) will be made in accordance with Document 00811 published by MassDOT revised July 8, 2016. Asphalt adjustment shall be documented on each invoice with no adjustment shown on invoice one. Invoice two will include the adjusted asphalt cost from the invoice one tonnage and so on. The contractor shall provide documentation and calculations demonstrating the proper adjustment. The base bid for liquid asphalt on this contract shall be the period price at the date of the bid opening as published by MassDOT on its website.

Insert the following new subsection in numerical order:

SECTION 706
MISCELLANEOUS WALK TREATMENT

DESCRIPTION

SUBSECTION 706.20 GENERAL

The work under this item shall conform to the relevant provisions of Section 700 of the Standard Specifications and the following:

The work consists of reusing existing or supplying and installing new various sidewalk treatments as shown on the plans or required by the Engineer. Work includes new/used pavers to provide transitions from walkways and driveways to new cement concrete walk, removing and relaying of existing brick, cobblestone, slate, granite, flagstone, or field stone walks similar to the existing conditions and in close conformity with existing lines and grades.

Samples, Submittals and Field Mock-Up

The Contractor shall reuse the existing bricks, pavers, flagstone, field stone or other materials or provide new similar materials as required and specified in the standard specifications, these special provisions or as indicated on the Drawings. The Contractor shall provide material descriptions, certified test results and manufacturer's product information for any new materials as required by the Engineer.

The Contractor shall submit a representative sample to the Engineer to indicate each shape, size and color to be supplied. The Contractor shall submit the manufacturers' product data for Polymeric Sand.

Quality Assurance

Maintain quality control of all batching, coloring, and forming of all units, supplemental unit parts, and in the delivery of said units.

All manufacturers shall have a minimum of five (5) years in producing brick pavers.

All pavers shall conform to standards defined by ASTM: American Society for Testing and Materials with relation to requirements of materials and their performance standards.

Units shall be free of cracks, chips, scratches and any other defect at the time of delivery. All units shall be placed in a storage area, protected from damage prior to and during transit to the Owner's or Contractor's site.

Edging Material shall meet minimum requirements based on the Stork Method.

MATERIALS

SUBSECTION 706.40 GENERAL

Brick Walk Pavers

Brick pavers will match in size, color and quality to the existing brick pavers used in each respective walkway. New pavers will have a thickness of 2 inches and be set as shown on the plans or as required by the Engineer.

Brick Driveway Pavers

Brick driveway pavers will match in size, color and quality of the existing brick pavers used in each respective driveway. New pavers will comply with ASTM c1272-11 type R & F Specifications for Heavy Vehicular Paving Brick 2-3/4" thickness and shall be set as shown on the plans or as required by the Engineer.

CONSTRUCTION METHODS

SUBSECTION 706.60 GENERAL

Delivery, Handling and Storage

Deliver pavers to the site in steel banded, plastic banded, or plastic wrapped cubes capable of transfer by forklift or clamp lift, with manufacturer's name and product brand. Store all materials in dry locations, protected from weather, stored off the ground, and secured on-site.

Polymeric sand shall be covered with a waterproof covering to prevent exposure to rainfall or removal by wind. The covering shall be secured in place.

Installation

The Joint Sand, also called polymeric sand and bedding sand shall be furnished and placed under requirements of Section 706, of the Standard Specifications, as shown on the plans or required by the Engineer.

Dense graded crushed stone shall be furnished and placed under the requirements of Section 402, of the Standard Specifications, as shown on the plans or as required by the Engineer.

The setting bed for the walkway pavers shall be masonry sand over a base of dense graded crushed stone over gravel borrow. Spread the sand setting bed evenly over the base and screed to thickness noted on the Drawings.

The setting bed for the driveway pavers shall be neoprene modified asphalt adhesive over a base of cement concrete, air entrained, 4000 psi, $\frac{3}{4}$ inch, 610 lbs/cu.yd. over gravel borrow.

Gravel borrow base shall be furnished and placed under requirements of Section 151, gravel base course of the Standard Specifications, and the sections and elevations shown on the Drawings.

Lay the pavers in the pattern(s) to match the existing walkway and/or driveway or as required by the Engineer. Maintain straight and uniform pattern lines.

New paver areas shall be hand placed paving units set with maximum 1/8 inch joints. Mechanically vibrate pavers to uniform and true level to finish grade.

Reset or new pavers used to rebuild existing walkways and/or driveways shall be set with joint width matching existing joint width of walkway and/or driveway being retained.

Polymeric sand shall only be added to joints when pavers are completely dry. All sand shall be swept from paver surface before the joint sand is watered in to avoid sand cementing to the paver surface. After initial joint sand application is watered in and pavers are completely dry, a second application of sand shall be swept into the joints to fill any remaining voids. After all sand has been removed from the paver surface the joints shall be watered thoroughly. This process shall be repeated until all joints are filled. Clean all paver surfaces as needed until the polymeric sand is completely removed from the brick surface.

Pavers shall have a deviation of 3/8" or less over a 10' length measured with a metal straight edge.

Cut pavers shall be no less than half a brick. Pavers shall be cut with a masonry saw and have a clean edge. Pavers that get chipped or do not have a clean edge will either be recut or replaced with a new paver.

The complete paver surface shall be swept clean and washed down with water to provide a finished installation according to manufacturers' recommendations. Any stains that occur during construction shall be removed prior to acceptance at no cost to the Owner.

Any damaged paving units found prior to project acceptance shall be removed. The paver replacement units shall match in color with adjacent units, at no additional cost to the Owner.

If installing edging before bedding sand and pavers:

Place edging on compacted base. Edging shall not be installed on top of the bedding layer. Spike rigid style edging using predrilled holes, with a maximum spacing of 24" between spikes. Spike placement may be placed through the back if needed. Installing flexible style edging with a maximum spacing between spikes of 12". Connect additional sections of edging as needed.

If installing edging after bedding sand & pavers:

Use a trowel or flat head shovel to cut down along the back of the paver, and pull away the excess bedding sand without disturbing the base material. Connect sections together. Place edging directly on the compacted base material. Slide the retention lip under the bedding layer. Edging shall not be installed on top of the bedding layer. Spike into place following the same spike placement specifications as noted above. Nail the spike at an angle with the point driven inward toward the pavement (toe-nailing) to keep edging tight to the pavement.

COMPENSATION

SUBSECTION 706.80 METHOD OF MEASUREMENT

Miscellaneous Walk Treatment will be measured for payment by the square yard, complete in place.

SUBSECTION 706.81 BASIS OF PAYMENT

Miscellaneous Walk Treatment will be paid at the Contract unit price per square yard, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment will be made for excavation, gravel borrow, fine grading and compacting, geotechnical fabric, dense graded crushed stone, setting bed sand, concrete, and polymeric joint sand, but all costs in connection therewith shall be included in the unit bid price for Item 706.7 Miscellaneous Walk Treatment.

Where new brick walk, existing brick walk, cobblestones, slate, flagstone, or field stone is removed and reset over an area where there is no sidewalk or driveway currently, reclaimed base may be used or, if none is available, gravel borrow will be provided and paid for under item 151 Gravel Borrow.

SUBSECTION 706.82 PAYMENT ITEMS

ITEM 706.7	Miscellaneous Walk Treatment	Square Yard
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Insert the following new subsection in numerical order:

**SECTION 734
CONSERVATORY AREA SIGN REMOVED AND RESET**

DESCRIPTION

SUBSECTION 734.20 GENERAL

The work under this item shall conform to the relevant provisions of Section 700 of the Standard Specifications and the following:

The work consists of the removing and resetting the existing Conservatory Area sign and sign posts at STA 116+60 LT and all work necessary to relocate the sign.

CONSTRUCTION METHODS

SUBSECTION 706.60 GENERAL

Prior to excavation for the adjacent sidewalk the sign shall be relocated to the proposed location as shown on the plans. Sign posts shall be buried 2' below grade or to the same depth as existing conditions, whichever is deeper. Sign posts shall be set in 3000 psi (minimum) cement concrete.

Any damage to the sign or sign posts due to the Contractors negligence shall be repaired by the Contractor at their own cost. If in the determination of the Engineer that the sign cannot be repaired, the Contractor shall fully replace the sign at their own cost.

The area around the sign shall be restored with loam and seed.

COMPENSATION

SUBSECTION 734.80 METHOD OF MEASUREMENT

Conservatory Area Sign Removed and Reset will be measured for payment by the each, complete in place.

SUBSECTION 734.81 BASIS OF PAYMENT

Conservatory Area Sign Removed and Reset will be paid at the Contract unit price per square yard, which price shall include all labor, materials, equipment and incidental costs required to complete the work.

No separate payment will be made for excavation, gravel borrow or cement concrete backfill, but all costs in connection therewith shall be included in the unit bid price for Item 734.1 Conservatory Area Sign Removed and Reset.

SUBSECTION 734.82 PAYMENT ITEMS

ITEM 734.1 Conservatory Area Sign Removed and Reset Each

**SECTION 751
LOAM BORROW, PLANTABLE SOIL BORROW, PROCESSED PLANTING
MATERIAL OR TOPSOIL REHANDLED AND SPREAD****CONSTRUCTION METHODS****SUBSECTION 751.61 PLANTABLE SOIL BORROW***Add the following at the end of this subsection:*

Plantable Soil Borrow shall be placed at a compacted depth of no less than 4 inches.

COMPENSATION**SUBSECTION 751.80 METHOD OF MEASUREMENT***Replace the first sentence of this subsection with the following:*

The quantity of Plantable Soil Borrow shall be measured in place after compaction to the limits specified on the plans, or as directed by the Engineer. When quantities of Plantable Soil Borrow are given in tons, a factor of 1.40 tons per cubic yard will be used to convert the measurement to cubic yards.

SUBSECTION 751.82 PAYMENT ITEMS*Add the following pay items:*

ITEM 752. Topsoil Rehandled and Spread Cubic Yard

**SECTION 771
PLANTING TREES, SHRUBS AND GROUNDCOVER****CONSTRUCTION METHODS****SUBSECTION 771.60 GENERAL***Add the following at the end of this subsection:*

Bushes or shrubs to be transplanted shall be carefully excavated with an air spade or other approved methods approved by the Engineer so as to not damage the roots or plants.

COMPENSATION**SUBSECTION 771.80 METHOD OF MEASUREMENT***Add the following at the end of the subsection:*

The quantity of bushes or shrubs transplanted to be paid for will be the number of living plantings removed, planted, and accepted in accordance with these specifications.

SUBSECTION 771.81 BASIS OF PAYMENT*Add the following at the end of the subsection:*

The quantity of bushes or shrubs transplanted measured as provided above will be paid for at the contract unit price per each.

SUBSECTION 771.82 PAYMENT ITEMS

Add the following pay items:

ITEM 771.06	Bush or Shrub Transplanted – Less Than 5 Feet Height	Each
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**SECTION 828
TRAFFIC SIGNS****SUBSECTION 828.20 GENERAL**

Insert the following at the end of the first paragraph:

Work shall also include removing and resetting signs, removing and stacking signs, removing and discarding signs, and removing and resetting posts as shown on the plans and as directed by the Engineer.

Add the following new subsection:

SUBSECTION 828.62 TRAFFIC SIGN REMOVED AND RESET

This work shall include removing and resetting signs as shown on the plans and directed by the Engineer. The work shall conform to the relevant requirements of Sections 828 and 840 of the Standard Specifications and the following:

The work under this item shall include the dismantling, removal, transporting, storing, and resetting of the existing signs at the location indicated on the Plans. The work also includes the removal and disposal of the existing sign supports and foundations if determined unsuitable to be reset by the Engineer..

The Contractor shall exercise particular care in the dismantling, removal, transporting and resetting of the existing signs designated to be reused. Any sign panel damaged during construction operations, shall be replaced immediately at the Contractor's expense.

Signs, attachment hardware and sign support posts lost, damaged or otherwise made unsuitable for reuse while being removed, transported, stored or reset shall be replaced with new material at no additional cost. New attachment hardware shall be furnished and installed as necessary to replace any missing or unusable existing hardware.

The Contractor shall backfill with compacted gravel all holes resulting from the removal of the existing signs and their foundations and restore the area to match existing conditions of adjacent areas.

Add the following new subsection:

SUBSECTION 828.63 TRAFFIC SIGNS REMOVED AND STACKED

The work under traffic signs removed and stacked shall consist of removing and stacking the signs as shown on the plans or directed by the Engineer. The signs shall be dropped off at the Lexington Highway Department at 1625 Massachusetts Avenue, Lexington, MA 02420. The Contractor shall be responsible for coordinating the drop off of the signs with the Lexington Highway Department.

The Contractor shall exercise particular care in the dismantling, removal, transporting and resetting of the existing signs designated to be stacked. Any sign panel damaged during construction operations, shall be replaced immediately at the Contractor's expense.

Add the following new subsection:

SUBSECTION 828.64 TRAFFIC SIGN REMOVED AND DISCARDED

The work shall include the removing and discarding of signs as shown on the plans and directed by the Engineer. The work shall conform to the relevant provisions of Section 828 of the Standard Specifications. The Contractor shall carefully remove all existing signs, posts, attachment hardware, and sign post foundations as shown on the plans and as required by the Engineer. Signs, posts, attachment hardware, and sign foundations shall be disposed of in accordance with all local, state, and federal requirements.

COMPENSATION

SUBSECTION 828.80 METHOD OF MEASUREMENT

Insert the following at the end of this section:

Traffic sign removed and reset will be measured by the respective unit each complete in place.

Traffic sign removed and stacked will be measured by the lump sum of all signs to be removed and stacked.

Traffic sign removed and discarded will be measured by the respective unit each.

SUBSECTION 828.81 BASIS OF PAYMENT

Insert the following at the end of this section:

Traffic sign removed and reset will be measured and paid at the Contract unit price per Each sign removed and reset together with its post complete in place, which price shall include all labor, materials including new posts, equipment, backfill and area restoration, and all incidental costs required to complete the work.

Traffic signs removed and stacked will be paid for at the Contract unit price lump sum which price shall constitute full compensation for dismantling, loading, transporting, and stacking of the signs as designated above. The price includes the excavating and disposal of the existing foundation of the sign and the supplying and placing of compacted gravel backfill where foundations and posts are removed, restoration of surface, and all other labor, tools, equipment, materials and incidentals necessary to complete the work.

Traffic signs removed and discarded will be paid for at the Contract unit price per each, which price shall include all labor, materials, equipment and incidental costs required to complete the work including removal and disposal of sign posts deemed to be unsuitable for reuse. The contractor is responsible to dispose of the unwanted signs and posts in accordance with the applicable laws, without additional compensation.

SUBSECTION 828.82 PAYMENT ITEMS

Insert the following in numerical order:

874.2	Traffic Sign Removed and Reset	Each
874.31	Traffic Signs Removed and Stacked	Lump Sum
874.41	Traffic Sign Removed and Discarded	Each

SECTION 850 TRAFFIC/SAFETY CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

DESCRIPTION

SUBSECTION 850.20 GENERAL

Add the following at the end of this subsection:

Work of this section shall also include Traffic Police Details and Fire Details as required for protection of the traveling public and working personnel during construction operations.

SUBSECTION 850.22 TRAFFIC CONES FOR TRAFFIC MANAGEMENT

Replace this subsection with the following:

Traffic Cones for Traffic Management consists of furnishing, positioning, repositioning, maintaining, and removing as needed and/or as directed: reflectorized drums, traffic cones, high level warning devices, delineators, floodlights, Type I and II barricades, portable flashing and steady burning lights, hand signal devices, lanterns and pilot cars for the purpose of closing a lane, shifting traffic, or otherwise redirecting traffic.

Add this new subsection:

SUBSECTION 850.38 TRAFFIC POLICE DETAILS AND FIRE DETAILS

This work consists of scheduling Traffic Police Details when construction operations involve work which is of a nature where the use of a Traffic Police Detail would be required to increase safety of the general public and construction personnel.

This work also consists of scheduling Fire Details when construction operations involve blasting work. A Fire Detail will be required at all times explosives are present on site.

Scheduling of Details shall be made through the Contractor.

The Contractor is responsible for canceling Details directly in the event of schedule changes where work no longer requires the use of Details, or cancellations of work for any reason, including weather.

MATERIALS

SUBSECTION 850.40 GENERAL

Add emphasis in paragraph one sentence one to the wording “must be in first class condition and acceptable to the engineer”.

All safety signage under this contract shall be mounted on plywood as described in this subsection.

SUBSECTION 850.43 SAFETY SIGNING FOR TRAFFIC MANAGEMENT

Add the following at the end of this subsection:

All safety signage under this contractor shall be mounted on plywood as described in this subsection.

COMPENSATION

SUBSECTION 850.80 METHOD OF MEASUREMENT

Add the following at the end of this subsection:

Traffic Police Details and Fire Details shall be paid actual man-hours, for which such services are rendered as required, as billed according to the Detail's union contract in effect at the time of work.

The Contractor shall be responsible for all payments of Traffic Police Details and Fire Details incurred when the

Contractor is unable to cancel Details with a minimum of one hour notice, in the event of schedule changes where work no longer requires the use of Details, or cancellations of work for any reason, including weather. Such man-hours shall be billed directly to the Contractor, according to the Detail's union contract in effect at time of work, and shall be kept separate from man-hours to be reimbursed by the Owner, and in no case will such payments be reimbursed.

The allowance established in the Bid Form is for bidding purposes only. The actual invoiced rates and quantities may differ from these established rates.

SUBSECTION 850.81 BASIS OF PAYMENT

Add the following at the end of this subsection:

Payment for Traffic Police Detail and Fire Detail shall be paid man-hours for services rendered as required, as measured in Subsection 850.80. Such man-hours shall be paid directly by the Contractor and reimbursed by the Town of Lexington for the amount billed and paid. Payment will not be made for man-hours the Contractor shall be responsible for, as stated in Subsection 850.80, METHOD OF MEASUREMENT. Evidence of payment of details by the contractor shall be provided to the town monthly to ensure payments are being made. Lack of payment or evidence may result in delays in processing invoices to the contractor or a work stoppage order to the contractor. Reimbursement will happen only after proof of payment has been submitted.

SUBSECTION 850.82 PAYMENT ITEMS

Add the following at the end of this subsection:

ITEM 999.	Traffic Police Detail	Man-Hours
ITEM 999.5	Fire Detail	Man-Hours

END OF SPECIAL PROVISIONS

APPENDIX A:
PREVAILING WAGE RATES



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

MAURA HEALEY
Governor

KIM DRISCOLL
Lt. Governor

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Lexington DPW

Contract Number:

City/Town: LEXINGTON

Description of Work: Construction of a 3450' asphalt sidewalk, including accessible curb cuts and incidental drainage and landscaping work.

Job Location: Cedar Street, Lexington MA

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, the awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.
- This annual update requirement is generally not applicable to 27F "rental of equipment" contracts. For such contracts, the prevailing wage rates issued by DLS shall remain in effect for the duration of the contract term. However, if the prevailing wage rate sheet issued does not contain wage rates for each year covered by the contract term, the Awarding Authority must request updated rate sheets from DLS and provide them to the contractor to ensure the correct rates are being paid throughout the duration of the contract. Additionally, if an Awarding Authority exercises an option to renew or extend the contract term, they must request updated rate sheets from DLS and provide them to the contractor.
- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. For a sample payroll reporting form go to <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Contractors must obtain the wage schedules from awarding authorities. Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.05	\$14.91	\$20.17	\$0.00	\$76.13
	06/01/2025	\$42.05	\$14.91	\$20.17	\$0.00	\$77.13
	08/01/2025	\$42.05	\$15.41	\$20.17	\$0.00	\$77.63
	12/01/2025	\$42.05	\$15.41	\$21.78	\$0.00	\$79.24
	06/01/2026	\$43.05	\$15.41	\$21.78	\$0.00	\$80.24
	08/01/2026	\$43.05	\$15.91	\$21.78	\$0.00	\$80.74
	12/01/2026	\$43.05	\$15.91	\$23.52	\$0.00	\$82.48
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96
	06/01/2025	\$41.12	\$14.91	\$20.17	\$0.00	\$76.20
	08/01/2025	\$41.12	\$15.41	\$20.17	\$0.00	\$76.70
	12/01/2025	\$41.12	\$15.41	\$21.78	\$0.00	\$78.31
	06/01/2026	\$43.12	\$15.41	\$21.78	\$0.00	\$80.31
	08/01/2026	\$43.12	\$15.91	\$21.78	\$0.00	\$80.81
	12/01/2026	\$43.12	\$15.91	\$23.52	\$0.00	\$82.55
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.24	\$14.91	\$20.17	\$0.00	\$76.32
	06/01/2025	\$42.24	\$14.91	\$20.17	\$0.00	\$77.32
	08/01/2025	\$42.24	\$15.41	\$20.17	\$0.00	\$77.82
	12/01/2025	\$42.24	\$15.41	\$21.78	\$0.00	\$79.43
	06/01/2026	\$43.24	\$15.41	\$21.78	\$0.00	\$80.43
	08/01/2026	\$43.24	\$15.91	\$21.78	\$0.00	\$80.93
	12/01/2026	\$43.24	\$15.91	\$23.52	\$0.00	\$82.67
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	01/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BLOCK PAVER, RAMMER / CURB SETTER	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
<i>LABORERS - ZONE 2</i>	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY)	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
<i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79
<i>BOILERMAKERS LOCAL 29</i>						

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10

Notes:

Apprentice to Journeyworker Ratio:1:4

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)	02/01/2025	\$65.80	\$11.49	\$23.59	\$0.00	\$100.88
<i>BRICKLAYERS LOCAL 3 (WALTHAM)</i>	08/01/2025	\$67.95	\$11.49	\$23.59	\$0.00	\$103.03
	02/01/2026	\$69.30	\$11.49	\$23.59	\$0.00	\$104.38
	08/01/2026	\$71.50	\$11.49	\$23.59	\$0.00	\$106.58
	02/01/2027	\$72.90	\$11.49	\$23.59	\$0.00	\$107.98

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Waltham

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.90	\$11.49	\$23.59	\$0.00	\$67.98
2	60	\$39.48	\$11.49	\$23.59	\$0.00	\$74.56
3	70	\$46.06	\$11.49	\$23.59	\$0.00	\$81.14
4	80	\$52.64	\$11.49	\$23.59	\$0.00	\$87.72
5	90	\$59.22	\$11.49	\$23.59	\$0.00	\$94.30

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.98	\$11.49	\$23.59	\$0.00	\$69.06
2	60	\$40.77	\$11.49	\$23.59	\$0.00	\$75.85
3	70	\$47.57	\$11.49	\$23.59	\$0.00	\$82.65
4	80	\$54.36	\$11.49	\$23.59	\$0.00	\$89.44
5	90	\$61.16	\$11.49	\$23.59	\$0.00	\$96.24

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$48.10	\$9.65	\$18.22	\$0.00	\$75.97
	06/01/2025	\$49.60	\$9.65	\$18.22	\$0.00	\$77.47
	12/01/2025	\$51.10	\$9.65	\$18.22	\$0.00	\$78.97
	06/01/2026	\$52.65	\$9.65	\$18.22	\$0.00	\$80.52
	12/01/2026	\$54.15	\$9.65	\$18.22	\$0.00	\$82.02

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARBIDE CORE DRILL OPERATOR	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
LABORERS - ZONE 2	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
CARPENTER	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
CARPENTERS -ZONE 2 (Eastern Massachusetts)	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
2	45	\$21.77	\$9.83	\$1.73	\$0.00	\$33.33
3	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
4	55	\$26.60	\$9.83	\$3.40	\$0.00	\$39.83
5	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
6	70	\$33.86	\$9.83	\$16.51	\$0.00	\$60.20
7	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77
8	80	\$38.70	\$9.83	\$18.24	\$0.00	\$66.77

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
2	45	\$22.33	\$9.83	\$1.73	\$0.00	\$33.89
3	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
4	55	\$27.29	\$9.83	\$3.40	\$0.00	\$40.52
5	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
6	70	\$34.73	\$9.83	\$16.51	\$0.00	\$61.07
7	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77
8	80	\$39.70	\$9.83	\$18.24	\$0.00	\$67.77

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CARPENTER WOOD FRAME <i>CARPENTERS -ZONE 2 (Wood Frame)</i>	10/01/2024	\$31.91	\$7.02	\$6.47	\$0.00	\$45.40
	10/01/2025	\$33.21	\$7.02	\$6.47	\$0.00	\$46.70
	10/01/2026	\$34.51	\$7.02	\$6.47	\$0.00	\$48.00

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 2

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$15.96	\$7.02	\$0.00	\$0.00	\$22.98
2	50	\$15.96	\$7.02	\$0.00	\$0.00	\$22.98
3	55	\$17.55	\$7.02	\$2.00	\$0.00	\$26.57
4	55	\$17.55	\$7.02	\$2.00	\$0.00	\$26.57
5	70	\$22.34	\$7.02	\$6.47	\$0.00	\$35.83
6	70	\$22.34	\$7.02	\$6.47	\$0.00	\$35.83
7	80	\$25.53	\$7.02	\$6.47	\$0.00	\$39.02
8	80	\$25.53	\$7.02	\$6.47	\$0.00	\$39.02

Effective Date - 10/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$16.61	\$7.02	\$0.00	\$0.00	\$23.63
2	50	\$16.61	\$7.02	\$0.00	\$0.00	\$23.63
3	55	\$18.27	\$7.02	\$2.00	\$0.00	\$27.29
4	55	\$18.27	\$7.02	\$2.00	\$0.00	\$27.29
5	70	\$23.25	\$7.02	\$6.47	\$0.00	\$36.74
6	70	\$23.25	\$7.02	\$6.47	\$0.00	\$36.74
7	80	\$26.57	\$7.02	\$6.47	\$0.00	\$40.06
8	80	\$26.57	\$7.02	\$6.47	\$0.00	\$40.06

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING <i>BRICKLAYERS LOCAL 3 (WALTHAM)</i>	07/01/2024	\$49.19	\$13.35	\$24.21	\$1.80	\$88.55
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Waltham)

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.60	\$13.35	\$16.43	\$0.00	\$54.38
2	60	\$29.51	\$13.35	\$19.21	\$1.80	\$63.87
3	65	\$31.97	\$13.35	\$20.21	\$1.80	\$67.33
4	70	\$34.43	\$13.35	\$21.21	\$1.80	\$70.79
5	75	\$36.89	\$13.35	\$22.21	\$1.80	\$74.25
6	80	\$39.35	\$13.35	\$23.21	\$1.80	\$77.71
7	90	\$44.27	\$13.35	\$24.21	\$1.80	\$83.63

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$58.18	\$15.55	\$16.50	\$0.00	\$90.23
	06/01/2025	\$59.51	\$15.55	\$16.50	\$0.00	\$91.56
	12/01/2025	\$60.98	\$15.55	\$16.50	\$0.00	\$93.03
	06/01/2026	\$62.31	\$15.55	\$16.50	\$0.00	\$94.36
	12/01/2026	\$63.79	\$15.55	\$16.50	\$0.00	\$95.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS LABORERS - ZONE 2	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 2</i>	12/02/2024	\$48.00	\$9.65	\$18.40	\$0.00	\$76.05
	06/02/2025	\$49.50	\$9.65	\$18.40	\$0.00	\$77.55
	12/01/2025	\$51.00	\$9.65	\$18.40	\$0.00	\$79.05
	06/01/2026	\$52.55	\$9.65	\$18.40	\$0.00	\$80.60
	12/07/2026	\$54.05	\$9.65	\$18.40	\$0.00	\$82.10
	06/07/2027	\$55.65	\$9.65	\$18.40	\$0.00	\$83.70
	12/06/2027	\$57.25	\$9.65	\$18.40	\$0.00	\$85.30
	06/05/2028	\$58.93	\$9.65	\$18.40	\$0.00	\$86.98
	12/04/2028	\$60.60	\$9.65	\$18.40	\$0.00	\$88.65
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 2</i>	12/02/2024	\$47.75	\$9.65	\$18.40	\$0.00	\$75.80
	06/02/2025	\$49.25	\$9.65	\$18.40	\$0.00	\$77.30
	12/01/2025	\$50.75	\$9.65	\$18.40	\$0.00	\$78.80
	06/01/2026	\$52.30	\$9.65	\$18.40	\$0.00	\$80.35
	12/07/2026	\$53.80	\$9.65	\$18.40	\$0.00	\$81.85
	06/07/2027	\$55.40	\$9.65	\$18.40	\$0.00	\$83.45
	12/06/2027	\$57.00	\$9.65	\$18.40	\$0.00	\$85.05
	06/05/2028	\$58.68	\$9.65	\$18.40	\$0.00	\$86.73
	12/04/2028	\$60.35	\$9.65	\$18.40	\$0.00	\$88.40
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 2</i>	12/02/2024	\$47.00	\$9.65	\$18.40	\$0.00	\$75.05
	06/02/2025	\$48.50	\$9.65	\$18.40	\$0.00	\$76.55
	12/01/2025	\$50.00	\$9.65	\$18.40	\$0.00	\$78.05
	06/01/2026	\$51.55	\$9.65	\$18.40	\$0.00	\$79.60
	12/07/2026	\$53.05	\$9.65	\$18.40	\$0.00	\$81.10
	06/07/2027	\$54.65	\$9.65	\$18.40	\$0.00	\$82.70
	12/06/2027	\$56.25	\$9.65	\$18.40	\$0.00	\$84.30
	06/05/2028	\$57.93	\$9.65	\$18.40	\$0.00	\$85.98
	12/04/2028	\$59.60	\$9.65	\$18.40	\$0.00	\$87.65
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2024	\$78.11	\$10.08	\$21.66	\$0.00	\$109.85
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Diver wage 70/80/90 2A \$69.83, 3A \$91.79,4A \$102.14 Total Rate						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16
as of 8-1-24, Apprentices with diving licenses begin at second year. % of Piledriver wage 70/80/90 2A \$54.20, 3A \$73.93,4A \$82.05 Total Rate						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2024	\$83.69	\$10.08	\$24.29	\$0.00	\$118.06
For apprentice rates see "Apprentice- PILE DRIVER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2024	\$117.16	\$10.08	\$24.29	\$0.00	\$151.53
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

Apprentice - ELECTRICIAN - Local 103

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental	
					Unemployment	Total Rate
1	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
2	40	\$25.51	\$13.00	\$0.77	\$0.00	\$39.28
3	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
4	45	\$28.70	\$13.00	\$16.69	\$0.00	\$58.39
5	50	\$31.89	\$13.00	\$17.20	\$0.00	\$62.09
6	55	\$35.08	\$13.00	\$17.70	\$0.00	\$65.78
7	60	\$38.27	\$13.00	\$18.21	\$0.00	\$69.48
8	65	\$41.46	\$13.00	\$18.71	\$0.00	\$73.17
9	70	\$44.65	\$13.00	\$19.22	\$0.00	\$76.87
10	75	\$47.84	\$13.00	\$19.74	\$0.00	\$80.58

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$25.99	\$13.00	\$0.78	\$0.00	\$39.77
2	40	\$25.99	\$13.00	\$0.78	\$0.00	\$39.77
3	45	\$29.24	\$13.00	\$16.71	\$0.00	\$58.95
4	45	\$29.24	\$13.00	\$16.71	\$0.00	\$58.95
5	50	\$32.49	\$13.00	\$17.21	\$0.00	\$62.70
6	55	\$35.74	\$13.00	\$17.72	\$0.00	\$66.46
7	60	\$38.99	\$13.00	\$18.23	\$0.00	\$70.22
8	65	\$42.24	\$13.00	\$18.74	\$0.00	\$73.98
9	70	\$45.49	\$13.00	\$19.24	\$0.00	\$77.73
10	75	\$48.74	\$13.00	\$19.76	\$0.00	\$81.50

Notes:

Apprentice to Journeyworker Ratio: 2:3***

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELEVATOR CONSTRUCTOR <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$65.62	\$16.03	\$20.21	\$0.00	\$101.86

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2022

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.81	\$16.03	\$0.00	\$0.00	\$48.84
2	55	\$36.09	\$16.03	\$20.21	\$0.00	\$72.33
3	65	\$42.65	\$16.03	\$20.21	\$0.00	\$78.89
4	70	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
5	80	\$52.50	\$16.03	\$20.21	\$0.00	\$88.74

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2022	\$45.93	\$16.03	\$20.21	\$0.00	\$82.17
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For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$51.78	\$15.30	\$16.40	\$0.00	\$83.48
	05/01/2025	\$53.22	\$15.30	\$16.40	\$0.00	\$84.92
	11/01/2025	\$54.51	\$15.30	\$16.40	\$0.00	\$86.21
	05/01/2026	\$55.95	\$15.30	\$16.40	\$0.00	\$87.65
	11/01/2026	\$57.24	\$15.30	\$16.40	\$0.00	\$88.94
	05/01/2027	\$58.67	\$15.30	\$16.40	\$0.00	\$90.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$53.37	\$15.30	\$16.40	\$0.00	\$85.07
	05/01/2025	\$54.82	\$15.30	\$16.40	\$0.00	\$86.52
	11/01/2025	\$56.12	\$15.30	\$16.40	\$0.00	\$87.82
	05/01/2026	\$57.57	\$15.30	\$16.40	\$0.00	\$89.27
	11/01/2026	\$58.87	\$15.30	\$16.40	\$0.00	\$90.57
	05/01/2027	\$60.32	\$15.30	\$16.40	\$0.00	\$92.02

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	05/01/2025	\$26.22	\$15.30	\$16.40	\$0.00	\$57.92
	11/01/2025	\$26.98	\$15.30	\$16.40	\$0.00	\$58.68
	05/01/2026	\$27.83	\$15.30	\$16.40	\$0.00	\$59.53
	11/01/2026	\$28.59	\$15.30	\$16.40	\$0.00	\$60.29
	05/01/2027	\$29.44	\$15.30	\$16.40	\$0.00	\$61.14

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS LOCAL 103</i>	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
	03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$45.96	\$15.55	\$16.50	\$0.00	\$78.01
	06/01/2025	\$47.02	\$15.55	\$16.50	\$0.00	\$79.07
	12/01/2025	\$48.19	\$15.55	\$16.50	\$0.00	\$80.24
	06/01/2026	\$49.25	\$15.55	\$16.50	\$0.00	\$81.30
	12/01/2026	\$50.43	\$15.55	\$16.50	\$0.00	\$82.48
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$27.01	\$9.65	\$17.80	\$0.00	\$54.46
	06/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	12/01/2025	\$28.09	\$9.65	\$17.80	\$0.00	\$55.54
	06/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
	12/01/2026	\$29.21	\$9.65	\$17.80	\$0.00	\$56.66
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	09/01/2024	\$56.23	\$8.83	\$20.27	\$0.00	\$85.33
	03/01/2025	\$57.73	\$8.83	\$20.27	\$0.00	\$86.83
	09/01/2025	\$59.23	\$8.83	\$20.27	\$0.00	\$88.33
	03/01/2026	\$60.73	\$8.83	\$20.27	\$0.00	\$89.83
	09/01/2026	\$62.23	\$8.83	\$20.27	\$0.00	\$91.33
	03/01/2027	\$63.73	\$8.83	\$20.27	\$0.00	\$92.83

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - FLOORCOVERER - Local 2168 Zone I

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
2	45	\$25.30	\$8.83	\$1.76	\$0.00	\$35.89
3	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
4	55	\$30.93	\$8.83	\$3.52	\$0.00	\$43.28
5	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
6	70	\$39.36	\$8.83	\$16.75	\$0.00	\$64.94
7	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32
8	80	\$44.98	\$8.83	\$18.51	\$0.00	\$72.32

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
2	45	\$25.98	\$8.83	\$1.76	\$0.00	\$36.57
3	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
4	55	\$31.75	\$8.83	\$3.52	\$0.00	\$44.10
5	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
6	70	\$40.41	\$8.83	\$16.75	\$0.00	\$65.99
7	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52
8	80	\$46.18	\$8.83	\$18.51	\$0.00	\$73.52

Notes: Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$36.67	\$15.55	\$16.50	\$0.00	\$68.72
	06/01/2025	\$37.52	\$15.55	\$16.50	\$0.00	\$69.57
	12/01/2025	\$38.47	\$15.55	\$16.50	\$0.00	\$70.52
	06/01/2026	\$39.33	\$15.55	\$16.50	\$0.00	\$71.38
	12/01/2026	\$40.28	\$15.55	\$16.50	\$0.00	\$72.33

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS OPERATING ENGINEERS LOCAL 4	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$31.37	\$0.00	\$0.00	\$0.00	\$31.37
2	60	\$34.22	\$15.55	\$16.50	\$0.00	\$66.27
3	65	\$37.07	\$15.55	\$16.50	\$0.00	\$69.12
4	70	\$39.92	\$15.55	\$16.50	\$0.00	\$71.97
5	75	\$42.77	\$15.55	\$16.50	\$0.00	\$74.82
6	80	\$45.62	\$15.55	\$16.50	\$0.00	\$77.67
7	85	\$48.48	\$15.55	\$16.50	\$0.00	\$80.53
8	90	\$51.33	\$15.55	\$16.50	\$0.00	\$83.38

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$32.08	\$0.00	\$0.00	\$0.00	\$32.08
2	60	\$35.00	\$15.55	\$16.50	\$0.00	\$67.05
3	65	\$37.91	\$15.55	\$16.50	\$0.00	\$69.96
4	70	\$40.83	\$15.55	\$16.50	\$0.00	\$72.88
5	75	\$43.75	\$15.55	\$16.50	\$0.00	\$75.80
6	80	\$46.66	\$15.55	\$16.50	\$0.00	\$78.71
7	85	\$49.58	\$15.55	\$16.50	\$0.00	\$81.63
8	90	\$52.50	\$15.55	\$16.50	\$0.00	\$84.55

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2025	\$59.69	\$14.75	\$28.12	\$2.98	\$105.54
	08/01/2025	\$61.54	\$14.75	\$28.12	\$2.98	\$107.39
	02/01/2026	\$63.49	\$14.75	\$28.12	\$2.98	\$109.34

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) <i>ELECTRICIANS LOCAL 103</i>	09/01/2024	\$63.78	\$13.00	\$22.26	\$0.00	\$99.04
	03/01/2025	\$64.98	\$13.00	\$22.30	\$0.00	\$100.28
	09/01/2025	\$66.89	\$13.00	\$22.36	\$0.00	\$102.25
	03/01/2026	\$68.09	\$13.00	\$22.39	\$0.00	\$103.48
	09/01/2026	\$70.00	\$13.00	\$22.45	\$0.00	\$105.45
	03/01/2027	\$71.19	\$13.00	\$22.49	\$0.00	\$106.68
	09/01/2027	\$73.11	\$13.00	\$22.54	\$0.00	\$108.65
	03/01/2028	\$74.31	\$13.00	\$22.58	\$0.00	\$109.89

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR) <i>SHEETMETAL WORKERS LOCAL 17 - A</i>	02/01/2025	\$59.69	\$14.75	\$28.12	\$2.98	\$105.54
	08/01/2025	\$61.54	\$14.75	\$28.12	\$2.98	\$107.39
	02/01/2026	\$63.49	\$14.75	\$28.12	\$2.98	\$109.34

For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PIPEFITTERS LOCAL 537</i>	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PIPEFITTERS LOCAL 537</i>	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.61	\$9.65	\$17.80	\$0.00	\$68.06
	06/01/2025	\$42.00	\$9.65	\$17.80	\$0.00	\$69.45
	12/01/2025	\$43.38	\$9.65	\$17.80	\$0.00	\$70.83
	06/01/2026	\$44.82	\$9.65	\$17.80	\$0.00	\$72.27
	12/01/2026	\$46.26	\$9.65	\$17.80	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	09/01/2024	\$56.92	\$14.75	\$19.61	\$0.00	\$91.28
	09/01/2025	\$60.34	\$14.75	\$19.61	\$0.00	\$94.70
	09/01/2026	\$63.76	\$14.75	\$19.61	\$0.00	\$98.12

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.46	\$14.75	\$14.32	\$0.00	\$57.53
2	60	\$34.15	\$14.75	\$15.37	\$0.00	\$64.27
3	70	\$39.84	\$14.75	\$16.43	\$0.00	\$71.02
4	80	\$45.54	\$14.75	\$17.49	\$0.00	\$77.78

Effective Date - 09/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.17	\$14.75	\$14.32	\$0.00	\$59.24
2	60	\$36.20	\$14.75	\$15.37	\$0.00	\$66.32
3	70	\$42.24	\$14.75	\$16.43	\$0.00	\$73.42
4	80	\$48.27	\$14.75	\$17.49	\$0.00	\$80.51

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER <i>IRONWORKERS LOCAL 7 (BOSTON AREA)</i>	03/16/2024	\$53.97	\$8.35	\$26.70	\$0.00	\$89.02
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - IRONWORKER - Local 7 Boston

Effective Date - 03/16/2024

Step	percent	Apprentice	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60		\$32.38	\$8.35	\$26.70	\$0.00	\$67.43
2	70		\$37.78	\$8.35	\$26.70	\$0.00	\$72.83
3	75		\$40.48	\$8.35	\$26.70	\$0.00	\$75.53
4	80		\$43.18	\$8.35	\$26.70	\$0.00	\$78.23
5	85		\$45.87	\$8.35	\$26.70	\$0.00	\$80.92
6	90		\$48.57	\$8.35	\$26.70	\$0.00	\$83.62

Notes:

Apprentice to Journeyworker Ratio:1:4

JACKHAMMER & PAVING BREAKER OPERATOR LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

LABORER LABORERS - ZONE 2	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - LABORER - Zone 2

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.70	\$0.00	\$51.27
2	70	\$27.90	\$9.65	\$17.70	\$0.00	\$55.25
3	80	\$31.89	\$9.65	\$17.70	\$0.00	\$59.24
4	90	\$35.87	\$9.65	\$17.70	\$0.00	\$63.22

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.70	\$0.00	\$52.10
2	70	\$28.88	\$9.65	\$17.70	\$0.00	\$56.23
3	80	\$33.00	\$9.65	\$17.70	\$0.00	\$60.35
4	90	\$37.13	\$9.65	\$17.70	\$0.00	\$64.48

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96

Apprentice - LABORER (Heavy & Highway) - Zone 2

Effective Date - 12/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.92	\$9.65	\$17.80	\$0.00	\$51.37
2	70	\$27.90	\$9.65	\$17.80	\$0.00	\$55.35
3	80	\$31.89	\$9.65	\$17.80	\$0.00	\$59.34
4	90	\$35.87	\$9.65	\$17.80	\$0.00	\$63.32

Effective Date - 06/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$24.75	\$9.65	\$17.80	\$0.00	\$52.20
2	70	\$28.88	\$9.65	\$17.80	\$0.00	\$56.33
3	80	\$33.00	\$9.65	\$17.80	\$0.00	\$60.45
4	90	\$37.13	\$9.65	\$17.80	\$0.00	\$64.58

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/02/2024	\$39.95	\$9.65	\$17.76	\$0.00	\$67.36
	06/02/2025	\$41.34	\$9.65	\$17.76	\$0.00	\$68.75
	12/01/2025	\$42.72	\$9.65	\$17.76	\$0.00	\$70.13
	06/01/2026	\$44.16	\$9.65	\$17.76	\$0.00	\$71.57
	12/07/2026	\$45.60	\$9.65	\$17.76	\$0.00	\$73.01
	06/07/2027	\$47.05	\$9.65	\$17.76	\$0.00	\$74.46
	12/06/2027	\$48.50	\$9.65	\$17.76	\$0.00	\$75.91
	06/05/2028	\$50.00	\$9.65	\$17.76	\$0.00	\$77.41
	12/04/2028	\$51.50	\$9.65	\$17.76	\$0.00	\$78.91
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MULTI-TRADE TENDER	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
<i>LABORERS - ZONE 2</i>	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER	12/01/2024	\$39.86	\$9.65	\$17.70	\$0.00	\$67.21
<i>LABORERS - ZONE 2</i>	06/01/2025	\$41.25	\$9.65	\$17.70	\$0.00	\$68.60
	12/01/2025	\$42.63	\$9.65	\$17.70	\$0.00	\$69.98
	06/01/2026	\$44.07	\$9.65	\$17.70	\$0.00	\$71.42
	12/01/2026	\$45.51	\$9.65	\$17.70	\$0.00	\$72.86
	06/01/2027	\$46.96	\$9.65	\$17.70	\$0.00	\$74.31
	12/01/2027	\$48.41	\$9.65	\$17.70	\$0.00	\$75.76
	06/01/2028	\$49.91	\$9.65	\$17.70	\$0.00	\$77.26
	12/01/2028	\$51.41	\$9.65	\$17.70	\$0.00	\$78.76
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
<i>LABORERS - ZONE 2</i>	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
<i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS	02/01/2025	\$50.36	\$11.49	\$21.62	\$0.00	\$83.47
<i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	08/01/2025	\$52.08	\$11.49	\$21.62	\$0.00	\$85.19
	02/01/2026	\$53.16	\$11.49	\$21.62	\$0.00	\$86.27
	08/01/2026	\$54.92	\$11.49	\$21.62	\$0.00	\$88.03
	02/01/2027	\$56.04	\$11.49	\$21.62	\$0.00	\$89.15

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.18	\$11.49	\$21.62	\$0.00	\$58.29
2	60	\$30.22	\$11.49	\$21.62	\$0.00	\$63.33
3	70	\$35.25	\$11.49	\$21.62	\$0.00	\$68.36
4	80	\$40.29	\$11.49	\$21.62	\$0.00	\$73.40
5	90	\$45.32	\$11.49	\$21.62	\$0.00	\$78.43

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.04	\$11.49	\$21.62	\$0.00	\$59.15
2	60	\$31.25	\$11.49	\$21.62	\$0.00	\$64.36
3	70	\$36.46	\$11.49	\$21.62	\$0.00	\$69.57
4	80	\$41.66	\$11.49	\$21.62	\$0.00	\$74.77
5	90	\$46.87	\$11.49	\$21.62	\$0.00	\$79.98

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.91	\$11.49	\$23.56	\$0.00	\$67.96
2	60	\$39.49	\$11.49	\$23.56	\$0.00	\$74.54
3	70	\$46.07	\$11.49	\$23.56	\$0.00	\$81.12
4	80	\$52.66	\$11.49	\$23.56	\$0.00	\$87.71
5	90	\$59.24	\$11.49	\$23.56	\$0.00	\$94.29

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.99	\$11.49	\$23.56	\$0.00	\$69.04
2	60	\$40.78	\$11.49	\$23.56	\$0.00	\$75.83
3	70	\$47.58	\$11.49	\$23.56	\$0.00	\$82.63
4	80	\$54.38	\$11.49	\$23.56	\$0.00	\$89.43
5	90	\$61.17	\$11.49	\$23.56	\$0.00	\$96.22

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) <i>MILLWRIGHTS LOCAL 1121 - Zone 1</i>	01/06/2025	\$50.53	\$10.08	\$21.72	\$0.00	\$82.33
	01/05/2026	\$53.03	\$10.08	\$21.72	\$0.00	\$84.83

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 01/06/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$27.79	\$10.08	\$5.64	\$0.00	\$43.51
2	65	\$32.84	\$10.08	\$6.66	\$0.00	\$49.58
3	75	\$37.90	\$10.08	\$19.16	\$0.00	\$67.14
4	85	\$42.95	\$10.08	\$20.18	\$0.00	\$73.21

Effective Date - 01/05/2026

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$29.17	\$10.08	\$5.64	\$0.00	\$44.89
2	65	\$34.47	\$10.08	\$6.66	\$0.00	\$51.21
3	75	\$39.77	\$10.08	\$19.16	\$0.00	\$69.01
4	85	\$45.08	\$10.08	\$20.18	\$0.00	\$75.34

Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66)
Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:4

MORTAR MIXER <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

For apprentice rates see "Apprentice- LABORER"

OILER (OTHER THAN TRUCK CRANES,GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$25.37	\$15.30	\$16.40	\$0.00	\$57.07
	06/01/2025	\$25.97	\$15.30	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.63	\$15.30	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.22	\$15.30	\$16.40	\$0.00	\$58.92
	12/01/2026	\$27.89	\$15.30	\$16.40	\$0.00	\$59.59

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

OILER (TRUCK CRANES, GRADALLS) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$31.08	\$15.30	\$16.40	\$0.00	\$62.78
	06/01/2025	\$31.80	\$15.30	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.60	\$15.30	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.32	\$15.30	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.12	\$15.30	\$16.40	\$0.00	\$65.82

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
OTHER POWER DRIVEN EQUIPMENT - CLASS II <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

PAINTER (BRIDGES/TANKS) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36
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Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$29.23	\$9.95	\$0.00	\$0.00	\$39.18
2	55	\$32.15	\$9.95	\$6.66	\$0.00	\$48.76
3	60	\$35.08	\$9.95	\$7.26	\$0.00	\$52.29
4	65	\$38.00	\$9.95	\$7.87	\$0.00	\$55.82
5	70	\$40.92	\$9.95	\$20.32	\$0.00	\$71.19
6	75	\$43.85	\$9.95	\$20.93	\$0.00	\$74.73
7	80	\$46.77	\$9.95	\$21.53	\$0.00	\$78.25
8	90	\$52.61	\$9.95	\$22.74	\$0.00	\$85.30

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>						

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.68	\$9.95	\$0.00	\$0.00	\$34.63
2	55	\$27.15	\$9.95	\$6.66	\$0.00	\$43.76
3	60	\$29.62	\$9.95	\$7.26	\$0.00	\$46.83
4	65	\$32.08	\$9.95	\$7.87	\$0.00	\$49.90
5	70	\$34.55	\$9.95	\$20.32	\$0.00	\$64.82
6	75	\$37.02	\$9.95	\$20.93	\$0.00	\$67.90
7	80	\$39.49	\$9.95	\$21.53	\$0.00	\$70.97
8	90	\$44.42	\$9.95	\$22.74	\$0.00	\$77.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (SPRAY OR SANDBLAST, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.71	\$9.95	\$0.00	\$0.00	\$33.66
2	55	\$26.08	\$9.95	\$6.66	\$0.00	\$42.69
3	60	\$28.45	\$9.95	\$7.26	\$0.00	\$45.66
4	65	\$30.82	\$9.95	\$7.87	\$0.00	\$48.64
5	70	\$33.19	\$9.95	\$20.32	\$0.00	\$63.46
6	75	\$35.57	\$9.95	\$20.93	\$0.00	\$66.45
7	80	\$37.94	\$9.95	\$21.53	\$0.00	\$69.42
8	90	\$42.68	\$9.95	\$22.74	\$0.00	\$75.37

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used. <i>PAINTERS LOCAL 35 - ZONE 2</i>						

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.98	\$9.95	\$0.00	\$0.00	\$33.93
2	55	\$26.38	\$9.95	\$6.66	\$0.00	\$42.99
3	60	\$28.78	\$9.95	\$7.26	\$0.00	\$45.99
4	65	\$31.17	\$9.95	\$7.87	\$0.00	\$48.99
5	70	\$33.57	\$9.95	\$20.32	\$0.00	\$63.84
6	75	\$35.97	\$9.95	\$20.93	\$0.00	\$66.85
7	80	\$38.37	\$9.95	\$21.53	\$0.00	\$69.85
8	90	\$43.16	\$9.95	\$22.74	\$0.00	\$75.85

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92
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Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.01	\$9.95	\$0.00	\$0.00	\$32.96
2	55	\$25.31	\$9.95	\$6.66	\$0.00	\$41.92
3	60	\$27.61	\$9.95	\$7.26	\$0.00	\$44.82
4	65	\$29.91	\$9.95	\$7.87	\$0.00	\$47.73
5	70	\$32.21	\$9.95	\$20.32	\$0.00	\$62.48
6	75	\$34.52	\$9.95	\$20.93	\$0.00	\$65.40
7	80	\$36.82	\$9.95	\$21.53	\$0.00	\$68.30
8	90	\$41.42	\$9.95	\$22.74	\$0.00	\$74.11

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2024	\$39.86	\$9.65	\$17.80	\$0.00	\$67.31
	06/01/2025	\$41.25	\$9.65	\$17.80	\$0.00	\$68.70
	12/01/2025	\$42.63	\$9.65	\$17.80	\$0.00	\$70.08
	06/01/2026	\$44.07	\$9.65	\$17.80	\$0.00	\$71.52
	12/01/2026	\$45.51	\$9.65	\$17.80	\$0.00	\$72.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2024	\$40.88	\$14.91	\$20.17	\$0.00	\$75.96
	06/01/2025	\$41.88	\$14.91	\$20.17	\$0.00	\$76.96
	08/01/2025	\$41.88	\$15.41	\$20.17	\$0.00	\$77.46
	12/01/2025	\$41.88	\$15.41	\$21.78	\$0.00	\$79.07
	06/01/2026	\$42.88	\$15.41	\$21.78	\$0.00	\$80.07
	08/01/2026	\$42.88	\$15.91	\$21.78	\$0.00	\$80.57
	12/01/2026	\$42.88	\$15.91	\$23.52	\$0.00	\$82.31
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16
For apprentice rates see "Apprentice- PILE DRIVER"						
PILE DRIVER PILE DRIVER LOCAL 56 (ZONE 1)	08/01/2024	\$55.79	\$10.08	\$24.29	\$0.00	\$90.16

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$25.11	\$10.08	\$2.53	\$0.00	\$37.72
2	55	\$30.68	\$10.08	\$5.07	\$0.00	\$45.83
3	70	\$39.05	\$10.08	\$19.22	\$0.00	\$68.35
4	80	\$44.63	\$10.08	\$21.76	\$0.00	\$76.47

Notes:

% Indentured BEFORE 8/1/20; 50/60/70/75/80/80/90/90

Apprentice to Journeyworker Ratio: 1.5

PIPEFITTER & STEAMFITTER PIPEFITTERS LOCAL 537	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

Apprentice - PIPEFITTER - Local 537

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$26.83	\$12.70	\$9.05	\$0.00	\$48.58
2	45	\$30.19	\$12.70	\$21.80	\$0.00	\$64.69
3	60	\$40.25	\$12.70	\$21.80	\$0.00	\$74.75
4	70	\$46.96	\$12.70	\$21.80	\$0.00	\$81.46
5	80	\$53.66	\$12.70	\$21.80	\$0.00	\$88.16

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$27.55	\$12.70	\$9.05	\$0.00	\$49.30
2	45	\$31.00	\$12.70	\$21.80	\$0.00	\$65.50
3	60	\$41.33	\$12.70	\$21.80	\$0.00	\$75.83
4	70	\$48.22	\$12.70	\$21.80	\$0.00	\$82.72
5	80	\$55.10	\$12.70	\$21.80	\$0.00	\$89.60

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.

Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio: **

PIPELAYER LABORERS - ZONE 2	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- LABORER"						
PIPELAYER (HEAVY & HIGHWAY)	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
PLUMBERS & GASFITTERS	09/01/2024	\$69.04	\$14.32	\$19.61	\$0.00	\$102.97
PLUMBERS & GASFITTERS LOCAL 12	03/02/2025	\$70.84	\$14.32	\$19.61	\$0.00	\$104.77

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.16	\$14.32	\$7.06	\$0.00	\$45.54
2	40	\$27.62	\$14.32	\$8.02	\$0.00	\$49.96
3	55	\$37.97	\$14.32	\$10.93	\$0.00	\$63.22
4	65	\$44.88	\$14.32	\$12.86	\$0.00	\$72.06
5	75	\$51.78	\$14.32	\$14.79	\$0.00	\$80.89

Effective Date - 03/02/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.79	\$14.32	\$7.06	\$0.00	\$46.17
2	40	\$28.34	\$14.32	\$8.02	\$0.00	\$50.68
3	55	\$38.96	\$14.32	\$10.93	\$0.00	\$64.21
4	65	\$46.05	\$14.32	\$12.86	\$0.00	\$73.23
5	75	\$53.13	\$14.32	\$14.79	\$0.00	\$82.24

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr

Step4 with lic\$76.49 tot.rate, Step5 with lic. \$85.32 tot. rate

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)	09/01/2024	\$67.08	\$12.70	\$21.80	\$0.00	\$101.58
PIPEFITTERS LOCAL 537	03/01/2025	\$68.88	\$12.70	\$21.80	\$0.00	\$103.38

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

PNEUMATIC DRILL/TOOL OPERATOR	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
LABORERS - ZONE 2	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	\$40.11 \$41.50 \$42.88 \$44.32 \$45.76	\$9.65 \$9.65 \$9.65 \$9.65 \$9.65	\$17.80 \$17.80 \$17.80 \$17.80 \$17.80	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$67.56 \$68.95 \$70.33 \$71.77 \$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 2</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026 06/01/2027 12/01/2027 06/01/2028 12/01/2028	\$40.86 \$42.25 \$43.63 \$45.07 \$46.51 \$47.96 \$49.41 \$50.91 \$52.41	\$9.65 \$9.65 \$9.65 \$9.65 \$9.65 \$9.65 \$9.65 \$9.65 \$9.65	\$17.70 \$17.70 \$17.70 \$17.70 \$17.70 \$17.70 \$17.70 \$17.70 \$17.70	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$68.21 \$69.60 \$70.98 \$72.42 \$73.86 \$75.31 \$76.76 \$78.26 \$79.76
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	\$40.86 \$42.25 \$43.63 \$45.07 \$46.51	\$9.40 \$9.40 \$9.40 \$9.40 \$9.40	\$17.55 \$17.55 \$17.55 \$17.55 \$17.55	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$67.81 \$69.20 \$70.58 \$72.02 \$73.46
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	\$57.03 \$58.33 \$59.78 \$61.08 \$62.53	\$15.55 \$15.55 \$15.55 \$15.55 \$15.55	\$16.50 \$16.50 \$16.50 \$16.50 \$16.50	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$89.08 \$90.38 \$91.83 \$93.13 \$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	\$56.40 \$57.68 \$59.12 \$60.40 \$61.84	\$15.55 \$15.55 \$15.55 \$15.55 \$15.55	\$16.50 \$16.50 \$16.50 \$16.50 \$16.50	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$88.45 \$89.73 \$91.17 \$92.45 \$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024 06/01/2025 12/01/2025 06/01/2026 12/01/2026	\$36.67 \$37.52 \$38.47 \$39.33 \$40.28	\$15.55 \$15.55 \$15.55 \$15.55 \$15.55	\$16.50 \$16.50 \$16.50 \$16.50 \$16.50	\$0.00 \$0.00 \$0.00 \$0.00 \$0.00	\$68.72 \$69.57 \$70.52 \$71.38 \$72.33
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/12 (Drivers Hired After 4/30/2012) <i>TEAMSTERS 25 (Suburban) - Aggregate</i>	08/01/2022	\$30.40	\$11.91	\$15.25	\$0.00	\$57.56
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 25 (Suburban) - Aggregate</i>	08/01/2022	\$30.50	\$11.91	\$15.25	\$0.00	\$57.66

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.11	\$9.65	\$17.70	\$0.00	\$67.46
	06/01/2025	\$41.50	\$9.65	\$17.70	\$0.00	\$68.85
	12/01/2025	\$42.88	\$9.65	\$17.70	\$0.00	\$70.23
	06/01/2026	\$44.32	\$9.65	\$17.70	\$0.00	\$71.67
	12/01/2026	\$45.76	\$9.65	\$17.70	\$0.00	\$73.11
	06/01/2027	\$47.21	\$9.65	\$17.70	\$0.00	\$74.56
	12/01/2027	\$48.66	\$9.65	\$17.70	\$0.00	\$76.01
	06/01/2028	\$50.16	\$9.65	\$17.70	\$0.00	\$77.51
	12/01/2028	\$51.66	\$9.65	\$17.70	\$0.00	\$79.01
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.28	\$13.03	\$21.70	\$0.00	\$87.01
	08/01/2025	\$53.78	\$13.03	\$21.70	\$0.00	\$88.51
	02/01/2026	\$55.03	\$13.03	\$21.70	\$0.00	\$89.76

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - ROOFER - Local 33

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.14	\$13.03	\$15.55	\$0.00	\$54.72
2	60	\$31.37	\$13.03	\$21.70	\$0.00	\$66.10
3	65	\$33.98	\$13.03	\$21.70	\$0.00	\$68.71
4	75	\$39.21	\$13.03	\$21.70	\$0.00	\$73.94
5	85	\$44.44	\$13.03	\$21.70	\$0.00	\$79.17

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$26.89	\$13.03	\$15.55	\$0.00	\$55.47
2	60	\$32.27	\$13.03	\$21.70	\$0.00	\$67.00
3	65	\$34.96	\$13.03	\$21.70	\$0.00	\$69.69
4	75	\$40.34	\$13.03	\$21.70	\$0.00	\$75.07
5	85	\$45.71	\$13.03	\$21.70	\$0.00	\$80.44

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1

Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

(Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE <i>ROOFERS LOCAL 33</i>	02/01/2025	\$52.53	\$13.03	\$21.70	\$0.00	\$87.26
	08/01/2025	\$54.03	\$13.03	\$21.70	\$0.00	\$88.76
	02/01/2026	\$55.28	\$13.03	\$21.70	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 17-A</i>	02/01/2025	\$59.69	\$14.75	\$28.12	\$2.98	\$105.54
	08/01/2025	\$61.54	\$14.75	\$28.12	\$2.98	\$107.39
	02/01/2026	\$63.49	\$14.75	\$28.12	\$2.98	\$109.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - SHEET METAL WORKER - Local 17-A

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$25.07	\$14.75	\$6.13	\$0.00	\$45.95
2	42	\$25.07	\$14.75	\$6.13	\$0.00	\$45.95
3	47	\$28.05	\$14.75	\$12.11	\$1.62	\$56.53
4	47	\$28.05	\$14.75	\$12.11	\$1.62	\$56.53
5	52	\$31.04	\$14.75	\$13.09	\$1.74	\$60.62
6	52	\$31.04	\$14.75	\$13.34	\$1.75	\$60.88
7	60	\$35.81	\$14.75	\$14.75	\$1.93	\$67.24
8	65	\$38.80	\$14.75	\$15.73	\$2.04	\$71.32
9	75	\$44.77	\$14.75	\$17.69	\$2.28	\$79.49
10	85	\$50.74	\$14.75	\$19.15	\$2.49	\$87.13

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	42	\$25.85	\$14.75	\$6.13	\$0.00	\$46.73
2	42	\$25.85	\$14.75	\$6.13	\$0.00	\$46.73
3	47	\$28.92	\$14.75	\$12.11	\$1.62	\$57.40
4	47	\$28.92	\$14.75	\$12.11	\$1.62	\$57.40
5	52	\$32.00	\$14.75	\$13.09	\$1.74	\$61.58
6	52	\$32.00	\$14.75	\$13.34	\$1.75	\$61.84
7	60	\$36.92	\$14.75	\$14.75	\$1.93	\$68.35
8	65	\$40.00	\$14.75	\$15.73	\$2.04	\$72.52
9	75	\$46.16	\$14.75	\$17.69	\$2.28	\$80.88
10	85	\$52.31	\$14.75	\$19.15	\$2.49	\$88.70

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2024	\$41.34	\$14.91	\$20.17	\$0.00	\$76.42
	06/01/2025	\$42.34	\$14.91	\$20.17	\$0.00	\$77.42
	08/01/2025	\$42.34	\$15.41	\$20.17	\$0.00	\$77.92
	12/01/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$79.53
	06/01/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$80.53
	08/01/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$81.03
	12/01/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$82.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.63	\$14.91	\$20.17	\$0.00	\$76.71
	06/01/2025	\$42.63	\$14.91	\$20.17	\$0.00	\$77.71
	08/01/2025	\$42.63	\$15.41	\$20.17	\$0.00	\$78.21
	12/01/2025	\$42.63	\$15.41	\$21.78	\$0.00	\$79.82
	06/01/2026	\$43.63	\$15.41	\$21.78	\$0.00	\$80.82
	08/01/2026	\$43.63	\$15.91	\$21.78	\$0.00	\$81.32
	12/01/2026	\$43.63	\$15.91	\$23.52	\$0.00	\$83.06
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1</i>	10/01/2024	\$70.34	\$11.51	\$23.80	\$0.00	\$105.65
	03/01/2025	\$72.14	\$11.51	\$23.80	\$0.00	\$107.45

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$24.62	\$11.51	\$13.07	\$0.00	\$49.20
2	40	\$28.14	\$11.51	\$13.90	\$0.00	\$53.55
3	45	\$31.65	\$11.51	\$14.73	\$0.00	\$57.89
4	50	\$35.17	\$11.51	\$15.55	\$0.00	\$62.23
5	55	\$38.69	\$11.51	\$16.37	\$0.00	\$66.57
6	60	\$42.20	\$11.51	\$17.20	\$0.00	\$70.91
7	65	\$45.72	\$11.51	\$18.03	\$0.00	\$75.26
8	70	\$49.24	\$11.51	\$18.85	\$0.00	\$79.60
9	75	\$52.76	\$11.51	\$19.67	\$0.00	\$83.94
10	80	\$56.27	\$11.51	\$20.50	\$0.00	\$88.28

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$25.25	\$11.51	\$13.07	\$0.00	\$49.83
2	40	\$28.86	\$11.51	\$13.90	\$0.00	\$54.27
3	45	\$32.46	\$11.51	\$14.73	\$0.00	\$58.70
4	50	\$36.07	\$11.51	\$15.55	\$0.00	\$63.13
5	55	\$39.68	\$11.51	\$16.37	\$0.00	\$67.56
6	60	\$43.28	\$11.51	\$17.20	\$0.00	\$71.99
7	65	\$46.89	\$11.51	\$18.03	\$0.00	\$76.43
8	70	\$50.50	\$11.51	\$18.85	\$0.00	\$80.86
9	75	\$54.11	\$11.51	\$19.67	\$0.00	\$85.29
10	80	\$57.71	\$11.51	\$20.50	\$0.00	\$89.72

Notes: Apprentice entered prior 9/30/10:

40/45/50/55/60/65/70/75/80/85

Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN <i>ELECTRICIANS LOCAL 103</i>	09/01/2024	\$51.02	\$13.00	\$20.24	\$0.00	\$84.26
	03/01/2025	\$51.98	\$13.00	\$20.27	\$0.00	\$85.25
	09/01/2025	\$53.51	\$13.00	\$20.32	\$0.00	\$86.83
	03/01/2026	\$54.47	\$13.00	\$20.34	\$0.00	\$87.81
	09/01/2026	\$56.00	\$13.00	\$20.39	\$0.00	\$89.39
	03/01/2027	\$56.95	\$13.00	\$20.42	\$0.00	\$90.37
	09/01/2027	\$58.49	\$13.00	\$20.46	\$0.00	\$91.95
	03/01/2028	\$59.45	\$13.00	\$20.49	\$0.00	\$92.94

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
2	45	\$22.96	\$13.00	\$0.69	\$0.00	\$36.65
3	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
4	50	\$25.51	\$13.00	\$16.16	\$0.00	\$54.67
5	55	\$28.06	\$13.00	\$16.57	\$0.00	\$57.63
6	60	\$30.61	\$13.00	\$16.97	\$0.00	\$60.58
7	65	\$33.16	\$13.00	\$17.38	\$0.00	\$63.54
8	70	\$35.71	\$13.00	\$17.78	\$0.00	\$66.49
9	75	\$38.27	\$13.00	\$18.18	\$0.00	\$69.45
10	80	\$40.82	\$13.00	\$18.58	\$0.00	\$72.40

Effective Date - 03/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$23.39	\$13.00	\$0.70	\$0.00	\$37.09
2	45	\$23.39	\$13.00	\$0.70	\$0.00	\$37.09
3	50	\$25.99	\$13.00	\$16.16	\$0.00	\$55.15
4	50	\$25.99	\$13.00	\$16.16	\$0.00	\$55.15
5	55	\$28.59	\$13.00	\$16.57	\$0.00	\$58.16
6	60	\$31.19	\$13.00	\$16.97	\$0.00	\$61.16
7	65	\$33.79	\$13.00	\$17.38	\$0.00	\$64.17
8	70	\$36.39	\$13.00	\$17.78	\$0.00	\$67.17
9	75	\$38.99	\$13.00	\$18.18	\$0.00	\$70.17
10	80	\$41.58	\$13.00	\$18.58	\$0.00	\$73.16

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
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Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.37	\$11.49	\$23.59	\$0.00	\$67.45
2	60	\$38.84	\$11.49	\$23.59	\$0.00	\$73.92
3	70	\$45.32	\$11.49	\$23.59	\$0.00	\$80.40
4	80	\$51.79	\$11.49	\$23.59	\$0.00	\$86.87
5	90	\$58.27	\$11.49	\$23.59	\$0.00	\$93.35

Effective Date - 08/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$33.45	\$11.49	\$23.59	\$0.00	\$68.53
2	60	\$40.13	\$11.49	\$23.59	\$0.00	\$75.21
3	70	\$46.82	\$11.49	\$23.59	\$0.00	\$81.90
4	80	\$53.51	\$11.49	\$23.59	\$0.00	\$88.59
5	90	\$60.20	\$11.49	\$23.59	\$0.00	\$95.28

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$47.07	\$9.65	\$18.22	\$0.00	\$74.94
	06/01/2025	\$48.57	\$9.65	\$18.22	\$0.00	\$76.44
	12/01/2025	\$50.07	\$9.65	\$18.22	\$0.00	\$77.94
	06/01/2026	\$51.62	\$9.65	\$18.22	\$0.00	\$79.49
	12/01/2026	\$53.12	\$9.65	\$18.22	\$0.00	\$80.99

For apprentice rates see "Apprentice- LABORER"

TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2024	\$46.95	\$9.65	\$18.22	\$0.00	\$74.82
	06/01/2025	\$48.45	\$9.65	\$18.22	\$0.00	\$76.32
	12/01/2025	\$49.95	\$9.65	\$18.22	\$0.00	\$77.82
	06/01/2026	\$51.50	\$9.65	\$18.22	\$0.00	\$79.37
	12/01/2026	\$53.00	\$9.65	\$18.22	\$0.00	\$80.87

For apprentice rates see "Apprentice- LABORER"

TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$56.40	\$15.55	\$16.50	\$0.00	\$88.45
	06/01/2025	\$57.68	\$15.55	\$16.50	\$0.00	\$89.73
	12/01/2025	\$59.12	\$15.55	\$16.50	\$0.00	\$91.17
	06/01/2026	\$60.40	\$15.55	\$16.50	\$0.00	\$92.45
	12/01/2026	\$61.84	\$15.55	\$16.50	\$0.00	\$93.89

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.92	\$14.91	\$20.17	\$0.00	\$77.00
	06/01/2025	\$42.92	\$14.91	\$20.17	\$0.00	\$78.00
	08/01/2025	\$42.92	\$15.41	\$20.17	\$0.00	\$78.50
	12/01/2025	\$42.92	\$15.41	\$21.78	\$0.00	\$80.11
	06/01/2026	\$43.92	\$15.41	\$21.78	\$0.00	\$81.11
	08/01/2026	\$43.92	\$15.91	\$21.78	\$0.00	\$81.61
	12/01/2026	\$43.92	\$15.91	\$23.52	\$0.00	\$83.35
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$59.18	\$9.65	\$19.00	\$0.00	\$87.83
	06/01/2025	\$60.68	\$9.65	\$19.00	\$0.00	\$89.33
	12/01/2025	\$62.18	\$9.65	\$19.00	\$0.00	\$90.83
	06/01/2026	\$63.73	\$9.65	\$19.00	\$0.00	\$92.38
	12/01/2026	\$65.23	\$9.65	\$19.00	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2024	\$61.18	\$9.65	\$19.00	\$0.00	\$89.83
	06/01/2025	\$62.68	\$9.65	\$19.00	\$0.00	\$91.33
	12/01/2025	\$64.18	\$9.65	\$19.00	\$0.00	\$92.83
	06/01/2026	\$65.73	\$9.65	\$19.00	\$0.00	\$94.38
	12/01/2026	\$67.23	\$9.65	\$19.00	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$51.25	\$9.65	\$19.00	\$0.00	\$79.90
	06/01/2025	\$52.75	\$9.65	\$19.00	\$0.00	\$81.40
	12/01/2025	\$54.25	\$9.65	\$19.00	\$0.00	\$82.90
	06/01/2026	\$55.80	\$9.65	\$19.00	\$0.00	\$84.45
	12/01/2026	\$57.30	\$9.65	\$19.00	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2024	\$53.25	\$9.65	\$19.00	\$0.00	\$81.90
	06/01/2025	\$54.75	\$9.65	\$19.00	\$0.00	\$83.40
	12/01/2025	\$56.25	\$9.65	\$19.00	\$0.00	\$84.90
	06/01/2026	\$57.80	\$9.65	\$19.00	\$0.00	\$86.45
	12/01/2026	\$59.30	\$9.65	\$19.00	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2024	\$41.34	\$14.91	\$20.17	\$0.00	\$76.42
	06/01/2025	\$42.34	\$14.91	\$20.17	\$0.00	\$77.42
	08/01/2025	\$42.34	\$15.41	\$20.17	\$0.00	\$77.92
	12/01/2025	\$42.34	\$15.41	\$21.78	\$0.00	\$79.53
	06/01/2026	\$43.34	\$15.41	\$21.78	\$0.00	\$80.53
	08/01/2026	\$43.34	\$15.91	\$21.78	\$0.00	\$81.03
	12/01/2026	\$43.34	\$15.91	\$23.52	\$0.00	\$82.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2024	\$40.61	\$9.65	\$17.70	\$0.00	\$67.96
	06/01/2025	\$42.00	\$9.65	\$17.70	\$0.00	\$69.35
	12/01/2025	\$43.38	\$9.65	\$17.70	\$0.00	\$70.73
	06/01/2026	\$44.82	\$9.65	\$17.70	\$0.00	\$72.17
	12/01/2026	\$46.26	\$9.65	\$17.70	\$0.00	\$73.61
	06/01/2027	\$47.71	\$9.65	\$17.70	\$0.00	\$75.06
	12/01/2027	\$49.16	\$9.65	\$17.70	\$0.00	\$76.51
	06/01/2028	\$50.66	\$9.65	\$17.70	\$0.00	\$78.01
	12/01/2028	\$52.16	\$9.65	\$17.70	\$0.00	\$79.51
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2024	\$40.11	\$9.65	\$17.80	\$0.00	\$67.56
	06/01/2025	\$41.50	\$9.65	\$17.80	\$0.00	\$68.95
	12/01/2025	\$42.88	\$9.65	\$17.80	\$0.00	\$70.33
	06/01/2026	\$44.32	\$9.65	\$17.80	\$0.00	\$71.77
	12/01/2026	\$45.76	\$9.65	\$17.80	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2024	\$57.03	\$15.55	\$16.50	\$0.00	\$89.08
	06/01/2025	\$58.33	\$15.55	\$16.50	\$0.00	\$90.38
	12/01/2025	\$59.78	\$15.55	\$16.50	\$0.00	\$91.83
	06/01/2026	\$61.08	\$15.55	\$16.50	\$0.00	\$93.13
	12/01/2026	\$62.53	\$15.55	\$16.50	\$0.00	\$94.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	09/01/2024	\$69.04	\$14.32	\$19.61	\$0.00	\$102.97
	03/02/2025	\$70.84	\$14.32	\$19.61	\$0.00	\$104.77
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

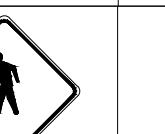
Additional Apprentice Information:

All apprentices must be registered with the Division of Apprenticeship Training (DAS) in accordance with M.G.L. c. 23, §§ 11E-11L. Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the hourly prevailing wage rate established by the Commissioner under the provisions of M.G.L. c. 149, §§ 26-27D. Apprentice ratios are established by DAS pursuant to M.G.L. c. 23, §§ 11E-11L. Ratios are expressed as the allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified. The ratios listed herein have been taken from relevant private collective bargaining agreements (CBAs) and are provided for illustrative purposes only. They have not been independently verified as being accurate or continuing to be accurate. Parties having questions regarding what ratio to use should contact DAS.

APPENDIX B:
SCHOOL STREET AT ROLLING LANE CROSSWALK SKETCH



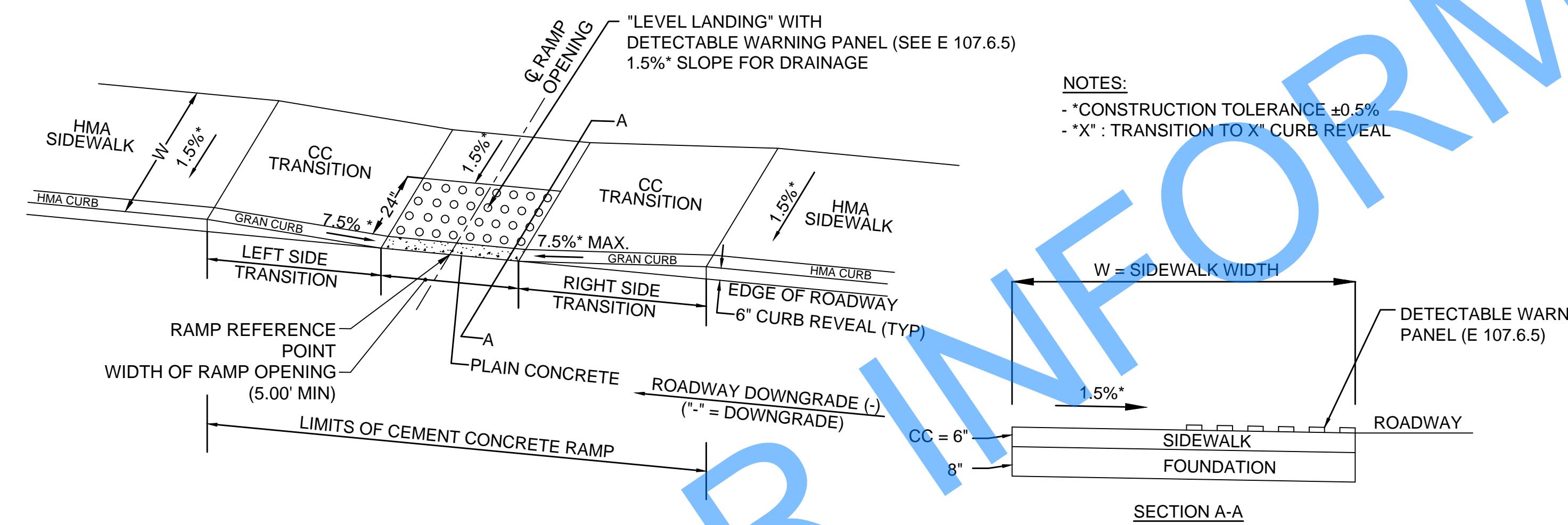
TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE & NUMBER REQUIRED	UNIT AREA (SF)	AREA SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACKGROUND	LEGEND	BORDER			
W11-2	30"	30"		SEE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS			4	FLUORESCENT YELLOW/GREEN	BLACK	BLACK	P5 2*	6.25	25
W16-7pL	24"	12"					2	FLUORESCENT YELLOW/GREEN	BLACK	BLACK	MOUNT W/ W11-2	2.00	4
W16-7pR	24"	12"					2	FLUORESCENT YELLOW/GREEN	BLACK	BLACK	MOUNT W/ W11-2	2.00	4

*INSTALL MATCHING FLUORESCENT YELLOW/GREEN REFLECTORIZED STRIP ON BOTH SIDES OF THE SIGN POST

PEDESTRIAN CURB RAMP NOT

ACCESSIBLE PEDESTRIAN CURB RAMPS ARE GENERALLY BEING CONSTRUCTED IN PLACE WHERE ADA/AAB-COMPLIANCE FOR CROSS SLOPE AND TRANSITION SLOPE ARE MET BASED ON FIELD GRADE. RIGHT SIDE AND LEFT SIDE TRANSITION LENGTHS SHOULD BE CONFIRMED IN THE FIELD BY THE CONTRACTOR.



PEDESTRIAN CURB RAMP 1 &

N.T.S.

